



MAGAZINE

PRICE TWOPENCE

MAY 1952



The *I.C.I. Magazine* is published for the interest of all who work in I.C.I., and its contents are contributed largely by people in I.C.I. It is edited by Richard Keane and printed at The Kynoch Press, Birmingham, and is published every month by Imperial Chemical Industries Limited, 26 Dover Street, London, W.1. Telephone: REGent 5067-8. The editor is glad to consider articles for publication, and payment will be made for those accepted.

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FRONT COVER: *Gateway in Delft, Holland*, by Paul Popper.

OUR CONTRIBUTORS

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IN DRY DOCK

The story of how in the heart of Cheshire at an inland dockyard I.C.I. craftsmen repair the little ships of the river Weaver

HERE is an inland dockyard at Winsford. It is on an arm of the river Weaver and it belongs to I.C.I. Most of the men employed there by the Salt Division are craftsmen—shipwrights, blacksmiths, sawyers, sailmakers and riggers—who have been with the Company all their working lives. Many of them have records of 45-50 years of service and need little persuasion to talk about their jobs.

Their tally is a big one. Since the "new" floating dock was installed in 1925 they have lifted, examined, repaired, and put back into service more than 1300 vessels. They have maintained for the Division a fleet of river craft which, though smaller than it was, still numbers fifteen steamers, nine barges, five ash boats, and a tugboat. Craft belonging to Alkali Division are also docked for underwater repairs, blacking and painting of hulls, propeller renewals and repairs.

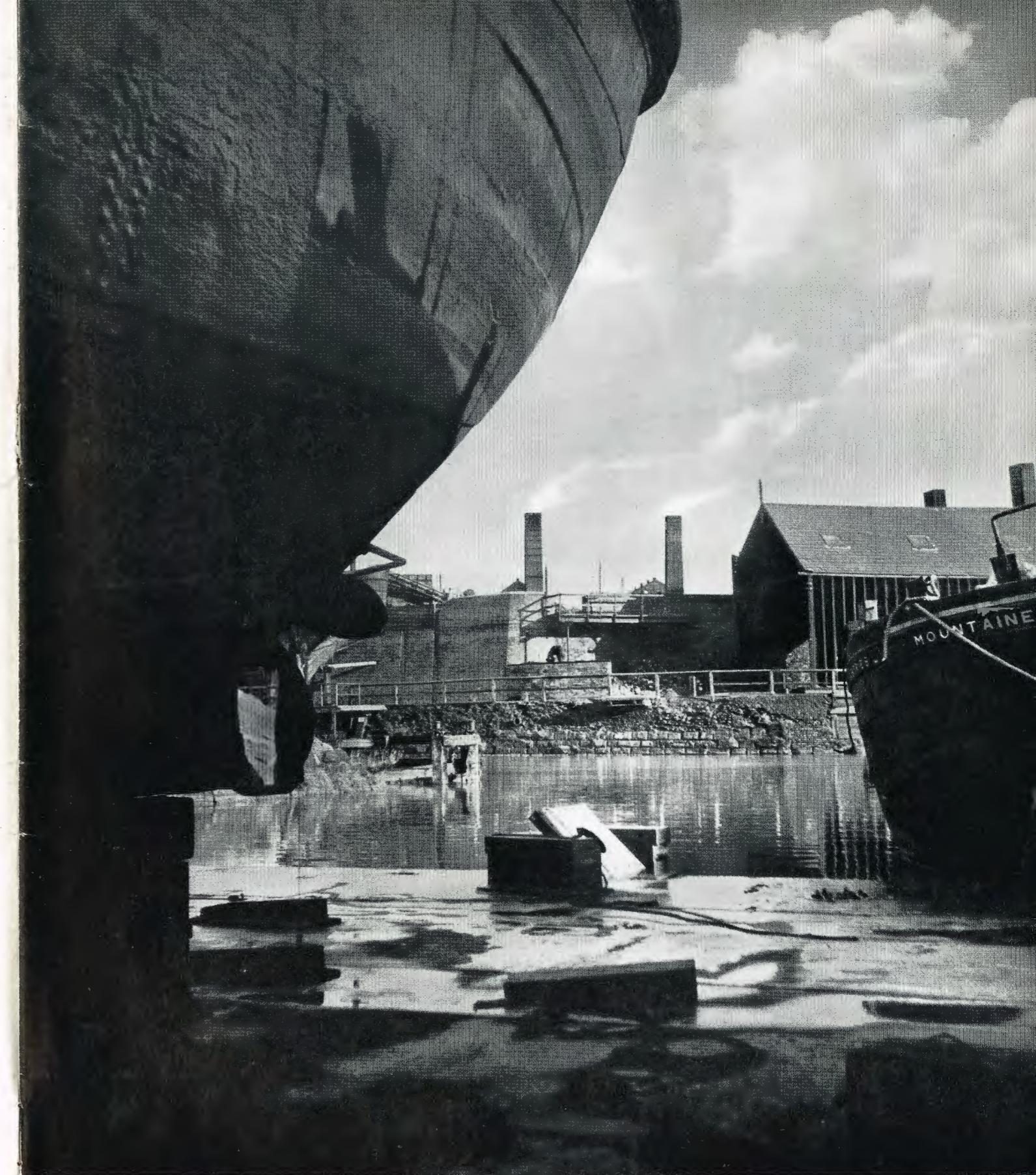
They have kept this fleet afloat, tested and renewed chains, blocks, hooks, rigging and winding wires and carried out a thousand and one other jobs for their own and other Divisions. Timberwork for Alkali, Lime and General Chemicals Divisions,

splicing steel ropes for hoists used in the Salt Division and winding ropes for cages in the rock salt mine—these are only some of the jobs they do.

Timber generally comes to the dockyard as whole tree-trunks complete in their bark. Only chosen timber is used. Some of that now lying in the yard was brought specially from Windsor Great Park. Magnificent oaks and elms are stored for long



OPERATING THE CONTROLS of the floating dock is dock attendant Ernest Allen. For 26 years he has been working at this dock.



HIGH AND DRY on the floating dock lies the hull of s.s. Syria awaiting rudder repairs



AN OAK TRUNK being converted into fletches by the blades of a vertical saw, here operated by sawyer Fred Wilson

periods of seasoning before being sawn into huge slabs and fletches. For ship repairing the choice of a piece of timber is vital. Elm must be used inside the vessel, because oak in contact with the salt would turn the cargo blue. Another great use for elm in the dockyard is the sawing and make-up of salt tubs of various patterns and sizes for Salt Division; these, in the course of a year, number about a thousand. But the shipwrights will tell you that oak must be used for the outer hull, as elm rots quickly if half wet and half dry or alternately wet and dry. The shape and the run of the grain affect wearing qualities and the amount of strain which a ship's timbers will withstand. A piece to be renewed may be only 8 in. square and 2 ft. long, but a pile of fletches may be turned over before one is found which will yield a bit and be just right for the job.

The men enjoy working what they look upon as such beautiful material just as much as they enjoy their reminiscences. And of these there are dozens—of ships' masts being chopped by hand with axes from logs 14 in. square and 40 ft. long, and dressed by plane to 10 or 11 in. diameter; of the row over a stolen dinner.

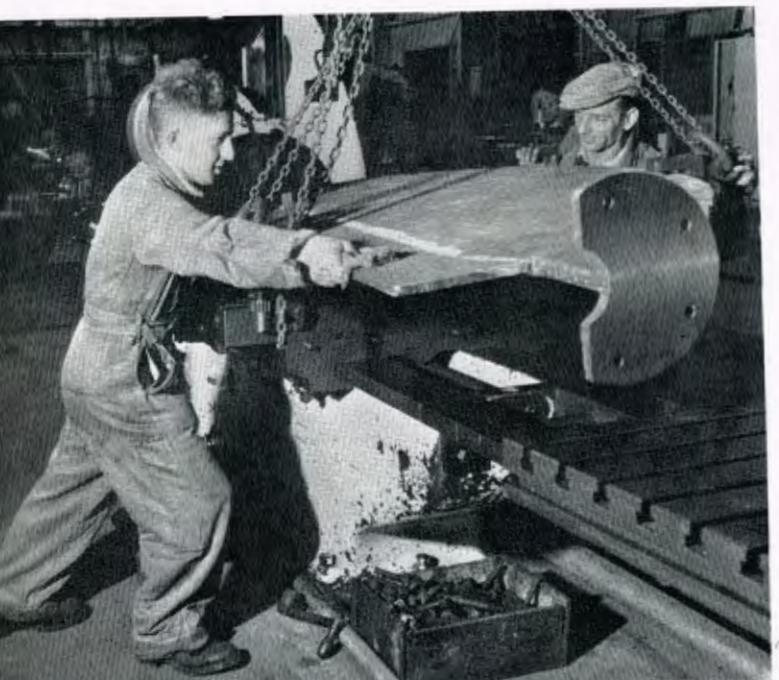
This is one of their best. Some years ago orders were received for every steamer in the fleet to be fitted with a cooking galley. On all but one there was room below decks. But this one had to have its galley out in the open. It was soon fixed up, and the cook hastened to celebrate by grilling two nice fat chops for his dinner. They were making that luscious but



THE SAILMAKER is a busy man, even with a steamer fleet. Brian Bradshaw is here sewing canvas covers.



DECK CAULKING is a traditional skill of the shipwright. Frank Newall, the oldest shipwright in Salt Division and 46 years with I.C.I., gets down to caulking a seam with oakum and pitch.



A NEW RUDDER for s.s. Syria. Robert Finney and his mate Tom Wilkinson set up the rough plate for boring bosses on which the rudder will pivot.



MAINTENANCE AND REPAIR at Salt Division engineering workshops. ABOVE: Blacksmith Edwin Atherton and his striker, Osmund Dean, are assembling a set of pulley blocks. BELOW: Fitter Harry Hulse is testing chains by hydraulic equipment.



long since forgotten sizzle as he went to do something else. Then one of them vanished. Blaming the skipper, cook was after his blood. Accusing him of the theft and saying bluntly just what he thought of him, he turned in time to spot the real thief—a gull, gracefully but greedily wheeling in for chop No. 2.

In the early days of the yard, boats had to be hauled up on to slipways with the eldest first on the top berth, as it would need more attention than its sisters. In December 1925, however, a new floating dock, built by Vickers at Barrow-in-Furness and capable of lifting a vessel of 300 tons displacement high and dry in forty-five minutes, was bought. Measuring 117 ft. long in the pontoon deck, this new dock is capable of handling any vessel in the fleet, and it has been in constant use ever since it was installed.

Among the vessels brought to it regularly is the M.T.B. belonging to Northwich Sea Scouts. At intervals she is lifted, repaired if necessary, and repainted. To stand on the pontoon deck and watch the shipwrights recaulk a seam or, better still, fit a new plank in the hull of a boat towering above is to see done with apparent ease a job which you or I could not do to save our lives—a 40 ft. long thick plank of hard, solid oak is bent and pegged with trenails to the curve of the hull as if it was the simplest thing in the world to do. Even though it has been softened in a steam oven for hours (one for every inch thickness), it still seems unmanageable to the looker-on.

Work goes on so smoothly in this secluded place that one imagines that nothing exciting could happen, yet the yard foreman, Mr. R. Morgan, and Mr. Ernest Allen, the dockmaster, who has operated the lift since the dock was installed, tell of a time in 1946 when flood waters suddenly rose ten feet, dragged out a mooring stake like a rotten tooth and all but deposited the dock on the doorstep of the sawmill. Had it done so, the dock would inevitably have broken its back. As it was, two men were marooned overnight and had a very anxious time.

Until January of this year, when he retired from this job, Mr. Jack Taylor, foreman of the machine shop, had charge of all engineering work on craft and will by now have handed on much valuable information to his successor. He will not be an easy man to follow: to hear him cajole an extra and urgent delivery of firebar castings from the neighbouring foundry was a lesson in industrial diplomacy. And yet, as a topic of conversation, he would prefer the relative merits of cameras.

One of the main responsibilities of the workshops is servicing the marine engines on the steamers, renewing bearings, skimming a crankshaft, or trueing up a bedplate when necessary, but chiefly keeping them going. Some of them have been in service for many years and still look as bright and trim as when they were new. As the older men say, they belong to the days when engines were built and came from firms long since defunct. One in particular was made by the two brothers Harker of Stockton-on-Tees, whose engines were spoken of almost with reverence. It is a model of sensible and practical design, but it must be at least twenty years since that tiny family business closed down.

W.L.B.

Information Notes

A DYE THAT TELLS A TALE

(Contributed by Dyestuffs Division)

Here is the story of a remarkable dye, one that will make its presence felt—or rather seen—even when diluted in water as much as one part to forty million. Fluoresceine has been used for many strange purposes because of this unique quality—to find the source of the river Amazon, to detect fractures in underwater piping, and in the last war to locate aircrews shot down over the sea.

ALTHOUGH it was discovered eighty years ago, fluoresceine still makes news, for its applications are wide and varied.

This yellow dyestuff was originally used for dyeing silk and wool, but it also attracted considerable attention on account of the beautiful green fluorescence of its alkaline solution. The fluorescence is so strong that it can be detected when as little as one part of fluoresceine is present in 40,000,000 parts of water—a quality which has caused it to be in demand over the years for tracing the courses of rivers and underground waters and, on a smaller scale, for discovering the outlets of sewers and determining the source of contamination of wells from polluted streams or broken drains.

The first use of fluoresceine for such a purpose was in 1877, when it was used to trace the passage of headwaters of the Danube into the Aach. A recent use of the dyestuff in this way was at the time of the Knockshinnock mining disaster in 1950, when Dyestuffs Division provided a quantity of Fluoresceine LTS (the sodium salt) to help in tracing the flow of water into the section of the mine in which the men were trapped.

In South America last year it was responsible for solving a 450-year-old mystery—the location of the Amazon's source. This has been in dispute ever since the river was discovered by the Spaniard Vicente Yanez Pinzon, and the dispute has become of more than academic interest since hydro-electric and flood-control schemes for the Amazon began to come under discussion. A British expedition, supported by Peru, Brazil, the U.S.A., France and the Amazon Institute, began

a new investigation. By the use of fluoresceine they established Lake Ninococha, 15,000 ft. up in the Peruvian Andes, as the source of the river. Dye from this lake progressively changed the colour of the adjacent lakes of Santa Ana and Lauricocha, thus proving a connection between all three. Subsequent use of the dye proved there was an underground connection between the lakes and the river Maranon, and this river is now known to be the upper reach of the Amazon itself.

In California recently fluoresceine was used in the inauguration of a new irrigation scheme in the Central Valley. As water released from the new dams arrived at each town downstream, celebrations were to begin. The only way to signal the arrival of the water was to dye it with fluoresceine.

In the last war Fluoresceine LTS manufactured by Dyestuffs Division made important contributions in a number of ways. It was of great assistance in locating members of aircrews who had fallen into the sea. Each airman carried a block of it, which dissolved and gave coloured patches on the surface of the water visible at a great distance to patrolling ships or aircraft. It was also used to detect fractures in "Pluto" (pipe-line under the ocean). A solution of Fluoresceine LTS in a liquid which would not mix with sea-water was pumped through the pipe-line. The liquid rose straight to the surface of the sea at the point of fracture and then spread out over a large area. From this floating layer the fluoresceine gradually dissolved in the surface water and produced an intensely coloured area, plainly visible to spotting aircraft.

Fluoresceine has many other applications, notably in surgery and medicine. When it is injected beneath the skin it circulates rapidly in living tissue, and can therefore be used as a diagnostic test to see whether the heart has stopped beating. It is also used for the detection of corneal ulcer. And on chemical treatment with bromine and mercuric oxide it is converted into the antiseptic known as 'Mercurochrome' or 'Mercurocol.'



An intensely coloured area

I.C.I. AT THE B.I.F.—1952

The British Industries Fair opened at Olympia on 5th May, and the object of the I.C.I. stand is to show the world that our Technical Service is second to none. Our Technical Service men go out to the customer and visit his factory, where they help him to solve his problem on the spot. If the problem is intractable, then research may be called in to find the answer.

THE theme of the main I.C.I. stand at the British Industries Fair this year is Technical Service. The stand is dominated by a tall set piece in the form of a net which is spread out to catch all the questions asked by I.C.I. customers. Ranged behind this, at eye-level, are fourteen three-dimensional scenes displayed in a honeycomb structure which tell the story of Technical Service in a lighthearted narrative.

The first shows the tarbooshed owner of a tannery in Baghdad reclining at oriental ease before a low table covered with skins. He is holding to the light a beaker of coloured liquid which has been handed to him by an I.C.I. man. The caption reads: "I.C.I. satisfies its customers at home and succeeds against competition abroad because its salesmen have the support of a Technical Service organisation that is unsurpassed in the chemical field."

Another scene shows a wild-eyed housewife withdrawing from her washtub a print frock which has faded disastrously in patches and from which the fugitive dyes are seen literally making their getaway. The caption says: "With chemical products, appearance is often no guide to quality. A cheap, fugitive direct cotton dye may look exactly the same as a high-quality vat dyestuff. The difference will become apparent only after the dyes have been used—perhaps not until the dyed goods have reached the final consumer."

Yet another scene shows I.C.I.'s small army of two thousand

technical service specialists drawn up in three regiments, each regiment carrying its distinguishing weapons: the engineers, for example, slope arms with adjustable spanners and have T-squares hanging from their belts like bayonets.

The stand was designed by Basil Spence, O.B.E., F.R.I.B.A., F.R.I.A.S., and the scenes were modelled on drawings by Arthur Horowicz, an artist whose work is already well known to readers of the *Magazine*.

To ensure that I.C.I. products do their job properly in the customer's factory a technical service organisation is maintained which is available to customers at home or overseas, large or small. The service costs more than £1,000,000 per annum. The advice and assistance it provides are freely available to any company with a technical problem to solve, and help is given whether I.C.I. products are involved or not.

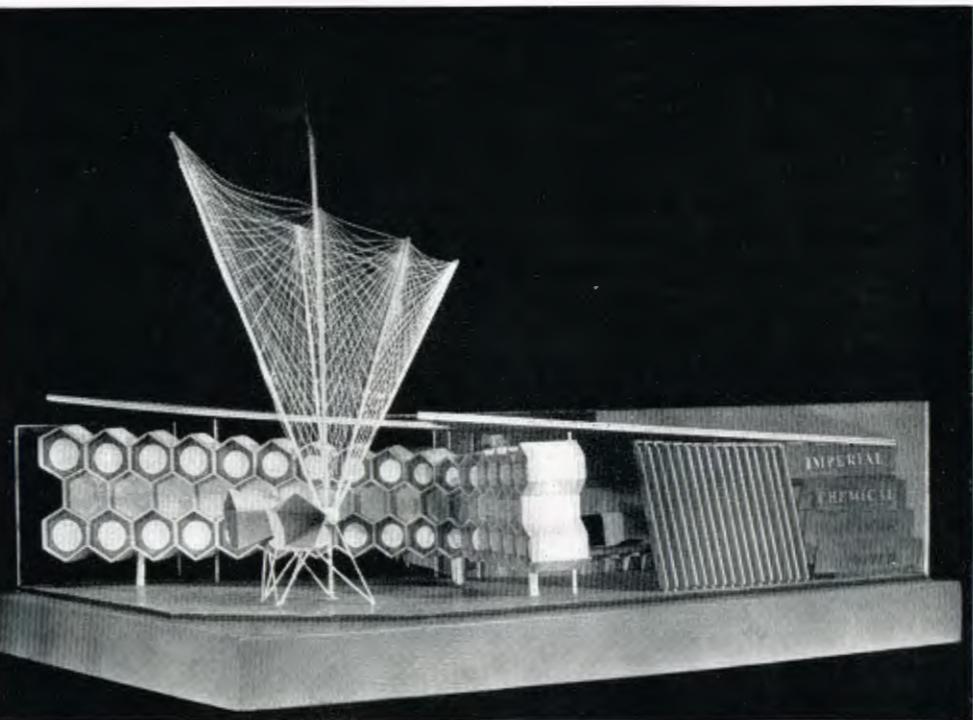
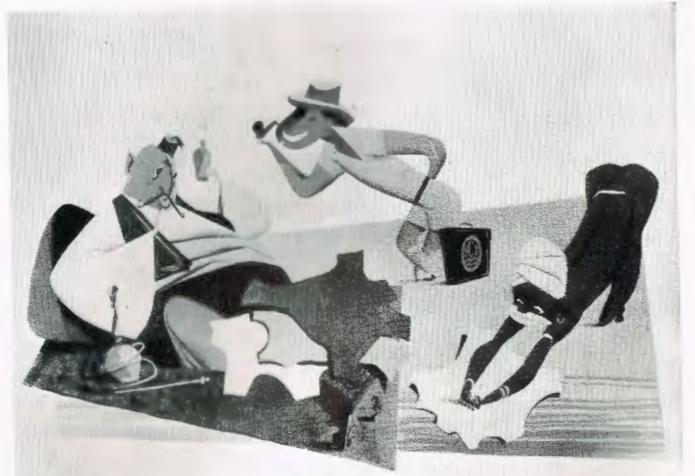
Each of the eleven manufacturing Divisions maintains its own technical service organisation, staffed with chemists, physicists, engineers and other specialists. The technical service laboratories are normally equipped with replicas of the type of plant used by the Division's customers.

In the Plastics Division's Technical Service Department, for instance, there are mills, moulding machines, extruders and other plant similar to that used in the factory of a plastic moulder or fabricator.

Dyestuffs Division has printing and dyeing machinery for



Photographs of two of the original Horowicz coloured drawings from which models have been made for the I.C.I. stand. The theme of both drawings is the same—the satisfaction of the customer, whether the housewife at home or the big buyer abroad.



A model of the I.C.I. stand at the British Industries Fair. The funnel-shaped net is symbolically spread out to catch customers' queries; at its foot the Technical Service organisation is seen dealing with them.

handling every variety of textile yarn and fabric. It has its own Rubber Service Laboratory, with many types of rubber machinery, and its Paper Laboratory has a scaled-down paper machine on which dyes and finishes can be tested under actual manufacturing conditions. In the 'Ardil' Technical Service Laboratory of Nobel Division there are carding engines, spinning machines, and other equipment needed for the study of technical problems connected with the textile trade.

Technical service men visit the customer's factory and help to solve problems on the spot. If necessary they can bring back the problem for study by the Division's service laboratories. If it is seen that fundamental research will be needed, the problem can be referred to the Divisional Research Departments.

The Technical Service staff handle an astonishing variety of enquiries. Nobel Division, for example, was asked to develop an explosive that could be used to blast out the hot lining of steel furnaces. Plastics Division, at the request of a motor manufacturer, developed a method of sealing export models in an air- and moisture-proof envelope so as to prevent them deteriorating during shipment through the tropics.

In 1950 over 20,000 enquiries were dealt with by the Technical Service Department of one Division alone—an average of nearly 80 for each working day.

Today, Technical Service has three main tasks:

1. It acts as custodian of the Company's reputation by constantly guarding the quality standards of I.C.I. products. It helps to define manufacturing standards that satisfy the customer and ensures that the materials made come up to specification.
2. It is an information service, supplying the buyer of I.C.I. products with all the instruction and help he needs if

he is to use them safely and to the best advantage.

3. It is a link between the Research Departments and the world of industry served by the Company. From industry it learns of suitable targets for research and helps to guide the efforts of the I.C.I. research worker into fields that will help to meet the practical needs of the day.

I.C.I. technical leaflets, brochures and books appear at the rate of about 800 separate publications per year to a total print order of about 4,000,000 copies. Many of these publications are recognised as standard works of reference. Some are printed in several languages, and their scope extends far beyond the direct use of I.C.I. products.

Books such as *The Physical Chemistry of Dyeing*, *The Fastness Assessment of Textile Dyestuffs* and *The Fundamentals of Rubber Technology* are works of major importance in their respective fields.

Nor must we forget the Company's scientific and technical documentary films and filmstrips, which are used as aids to the training of doctors, veterinary surgeons, nurses, mineworkers, farmers and others. Thousands of schoolchildren see these films as part of their scientific education. Hundreds of copies are sent on free loan by the Film Library every month.

Overseas, Technical Service is primarily the concern of I.C.I.'s associated and subsidiary companies. As a rule, each overseas company has its own technical service laboratory, where the simpler tests are carried out—as, for example, colour-matching dyed fabrics—and the more routine enquiries handled. The overseas companies are encouraged to send the more difficult problems back to Britain so that the full experience and resources of the parent department can be joined to give a satisfactory answer to questions of real complexity.

In 1950 the Technical Service Department of I.C.I. (Belgium), for example, received 750 enquiries, 450 of which they answered themselves. The remaining 300 were referred home. In India, on the other hand, where there are extensive laboratories, the staff are able to deal with most problems on the spot.

Home-based Technical Service staff make many visits to overseas companies and their customers. Such visits may be part of a regular plan or in response to an emergency call for help. In overseas markets, as at home, a proper understanding of the real problems involved can only be obtained by direct contact between the men and women of Technical Service and the customer.

HOW THE STAFF OF I.C.I. ARE RECRUITED

(Contributed by the Recruitment Section of Central Staff Department)

About 3000 people—men and women in roughly equal numbers—are recruited to the staff of I.C.I. every year. And one of the most highly valued sources of recruitment is the personal introduction. If you have a friend you wish to introduce, this article will tell you how to do it and the sort of people the Company is looking for.

IN the course of a year probably many hundreds of I.C.I. people are asked whether they can assist someone to obtain a position in the organisation. Many of those who are approached reply, quite correctly, that they will make an introduction to the appropriate department but that they are not in a position to influence the result.

As apologies are sometimes offered by employees for troubling us when sending enquiries about employment, it may be helpful to give readers a few notes on our staff recruitment in this country and to show that these personal introductions can be of great value to all concerned.

The recruitment for each Division is carried out through its own Division Staff Department, and there is a corresponding Staff Department which acts on behalf of Head Office and Regional Sales Offices. The Recruitment Section of Central Staff Department supplements the efforts of the Division and Head Office Staff Departments, which incidentally involves handling about 400 male applicants for employment each month, including those introduced by employees of the Company.

To replace staff who retire or leave for any reason, and to provide for the expansion of the organisation, about 3000 appointments are made each year, the numbers of each sex being roughly equal. A very large proportion of these are obtained from local sources by Divisions and Regional offices. This applies particularly to laboratory, clerical and secretarial assistants, and shorthand typists, but also to many other categories of staff as well.

Often, however, for more highly qualified technical and professional staff it is necessary to search further afield, and close contacts have been established with the universities, technical colleges, official bodies such as the Technical and Scientific Register of the Ministry of Labour and National Service, and many professional institutions. In addition, advertisements are frequently inserted in the national and local press, and in specialised publications, such as *Nature*, the *British Medical Journal*, and various engineering journals.

Last, but not least, comes the personal introduction, which



... or leave for any reason

is the main purpose of writing this note. Far from discouraging introductions, we like to think of each employee of the Company as an agency through whom likely candidates may be introduced, but it is essential that a few words of explanation should be added.

Although the Company's requirements vary from time to time and from place to place, junior staff appointments are normally made from those who live within reasonable travelling distance of the point of work. Therefore, if an I.C.I. employee in the Manchester area knows a keen young man living next door who has just left school and wants to start working in a chemical laboratory, it is obviously better to send his enquiry to the Staff Department of the Dyestuffs Division at Blackley rather than, say, to the Paints Division at Slough or the Central Staff Department.

At the present time there is a shortage throughout Britain of qualified technical personnel, in particular graduate chemists and mechanical engineers. Applicants of this kind may be suitable for jobs in any part of the country where I.C.I. has an establishment, and it is the business of the Recruitment Section of the Central Staff Department to know where these vacancies exist.

So if you are approached by an acquaintance who, for example, has a good honours degree in chemistry—or even if you have reason to think that a career in industry might be attractive to him—two alternative courses are open. The first is to contact your own staff manager, and the second is to write to the Central Staff Department.

partment. In either case if there is anywhere a suitable vacancy you may be the means of helping someone to find an interesting job and of assisting the Company at the same time.

Now by way of qualification. I.C.I. employs a very fine body of people, and it can only continue to provide the highest possible service to the community if the standard is maintained. While there are many jobs requiring varying degrees of intelligence and skill, we need to recruit each year a proportion of the very best men from the universities, technical institutions and elsewhere. In most cases we try to engage



... the highest-possible service

people at the beginning of their careers, so that promotion to senior jobs—right from the bottom to the top—can take place from within the organisation; but we can hold no prospect of employment to the inefficient or the work-shy.

It will help the Company, therefore, if anyone who intends to introduce a prospective candidate for employment can meet the individual in the first instance to form some opinion of his or her suitability for the type of job sought. In this way unnecessary effort may be saved and disappointment may be minimised.

So please do not be afraid to introduce young men and women to I.C.I., but kindly bear in mind that among the qualities we seek are ability, enthusiasm, and the team spirit.

Lastly, the Division or department concerned with an appointment must always be the final judge of the individual. If someone you recommend is not offered a post it may only mean that there is no suitable vacancy in I.C.I.; your friend should not be discouraged, because in this age there are plenty of opportunities for all who are able and willing to do a good job of work.

MY TWO MONTHS IN HOSPITAL

By G. B. Smith

As Agricultural Publicity Manager G. B. Smith has a wide circle of friends and acquaintances. He has recently been under treatment in Queen Mary's Hospital, Roehampton, for trouble resulting from the amputation of his leg during the first world war and contributes the following note on his experiences there.

HAVE you ever been in hospital? I have just had two months in one of the most famous. You can forget the idea that hospital is a place where you sink back into bed and relax. Most hospitals today are dominated by a bunch of attractive but most determined young women called physiotherapists. Their motto is "Movement is Life," and their job is to keep you moving.

Well, there I was all cosy in a gentle haze of anaesthetic, prepared to be an object of sympathy to my visitors, when I found a fair vision in a white coat by my bed and a very firm voice said "Now, what about a few exercises. I am sure you would like to do some." The bedclothes were folded back and I was ruthlessly displayed.

"Shall we start with the toes? Bend! Straighten! Bend! Straighten!"—and so on through all the bits of me in which there was any possibility of movement. She discovered parts that I never thought could or would move.

Do you know there are five different ways you can breathe? I always thought it was one of those things that happened automatically from birth until it finally stopped. But not at all. You have probably been doing it all wrong all the time. It can be learned with variations. The words of command are a little confusing, as on the word "In" one bulges out and on the word "Out" one caves in.

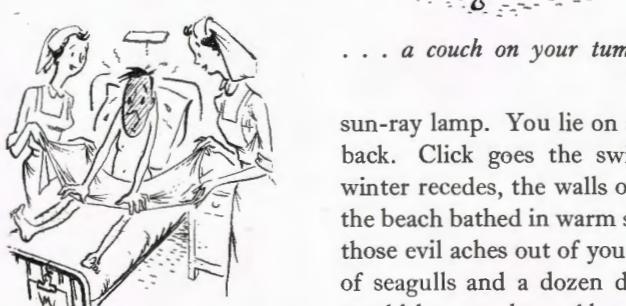
At last there comes a day when you are told you may get up, and how welcome it sounds, because by now bed has lost

its charm. Breakfast in bed, washing in bed, everything else in bed—definitely too much of a good thing. Into a wheelchair or a few tottering steps are the most that can be done at first, but soon strength returns and the length of the ward is rolled or walked. This is indeed the opportunity of the physio girls. An appointment is fixed without delay for you to report

to Physio I, their own workshop. Here anything can happen to you. Everyone abandons all sense of dignity and takes what is coming to them with a smile.

The surgeons do their stuff, and very wonderful it is, but all patients agree it is the girls who put the patients on their feet again.

There is one treatment I can thoroughly recommend—the



... ruthlessly displayed

sun-ray lamp. You lie on a couch on your tum and bare your back. Click goes the switch, and immediately England in winter recedes, the walls of Physio I are down and you are on the beach bathed in warm sunshine, while smooth fingers work those evil aches out of your backbone. All you need is the cry of seagulls and a dozen desert island discs, and the illusion would be complete. Alas, after fifteen or twenty minutes the switch is reversed and you are back in hospital with a despairing shudder as the warmth and lovely light fade away.

The day I came back to the office was made memorable by all the kind enquiries and the assurances that everyone was glad to see me back. The world—in hospital and out—is filled by very kind people. One has only to be ill to discover how true this is.

THE SAMPLER

THE train of coal wagons clanked and groaned into the siding. With a squeal of brakes it stopped, and the little engine puffed off to look for its next load. "Well, that's another 200 tons or so," said my companion, Arthur Nicholson. "Enough to last Billingham an hour and a half."

Arthur's job is to keep an eye on Billingham's coal. The factory depends on coal. It is a raw material and a fuel as well. Three thousand tons of it a day helps to make the fertilizers and plastics, the 'Drikold' and plasterboard and dozens of other products turned out by this enormous chemical city.

To most of us coal is simply coal. But it isn't to a factory like Billingham. It represents raw materials for turning into chemicals, and calories of heat for raising steam. And the amounts of these things vary in every load of coal.

"Sometimes we get a trainload that's 15% ash. Other times it may be as low as 10%. We've got to analyse every load of coal that comes into the works so that we know exactly what it is we're buying and using," explained Arthur. "And that's where I come in. It's my job to sample the coal from every train that arrives."

We dodged between two wagons and searched among row after row of trucks that filled the siding. Arthur was looking for a five-wagon delivery that had come in from Hartley Main the day before. As we walked he inspected the labels held by spring clips to the side of each wagon: Consett, Spennymoor, Washington—most of the famous Durham pits were represented.

"Here we are!" said Arthur. "Hartley Main No. 5. 100 tons washed nuts."

Clutching his sack and a small stainless steel shovel, he climbed nimbly on to the bumpers and up the steel footholds in the side of the wagon. I followed him and scrambled clumsily on to the coal inside the wagon.

"We've got to follow a special plan to get a sample," said Arthur, measuring accurately from one corner of the wagon. "It's all been worked out by the statistics people so that the coal I collect is a fair sample of the whole load."

I watched him as he set to work. He had begun digging a hole into the coal at a point eighteen inches from the corner of the wagon. Scraping away steadily with his bright steel shovel, he dug until the hole was eighteen inches deep. Then he scooped up a shovelful of coal and poured it into the sack.

We scrambled over the coal to the diagonally opposite corner, and Arthur repeated his ritual. Then from the top of the coal he added a proportion to represent the larger pieces, and we clambered on to the next wagon to repeat the performance.

When all five of the wagons had been sampled Arthur hoisted up his full sack of coal and climbed down off the wagon as nimbly as a schoolboy.

We made our way back to the sampling shed, where Arthur showed me the next stage in his work.

He marked the tonnage up on a blackboard behind him and began pouring the coal into a big steel grinder. Everything from the sack went in, including stone and shale. Crushed coal came from a chute at the bottom and collected in a pail. It was in pieces about the size of small peas.

"Now we've got a couple of pailfuls of small coal," explained Arthur, "instead of a sack of chunks. But I can't just take a bit out and fill up a bottle for the analysts. The pieces are still far too big to be able to mix the coal thoroughly and get a representative sample."

He poured the pailfuls of coal into a steel gadget called a riffle. This was a container with slots in the bottom. Each alternate slot led to opposite sides of the base of the riffle, where two chutes led to metal bins. By pouring the coal through the riffle Arthur was able to divide it into two lots, each of which would be more or less identical. By repeating the riffling with coal from one of the collecting bins he finished up with a quarter of his original two pailfuls of small coal.

He poured the sample of coal on to a massive table with a top made from the plate of one inch thick manganese steel and mixed up the heap thoroughly. Then he stirred it up with the back of a handbrush and spread it out skilfully into a flat cake.

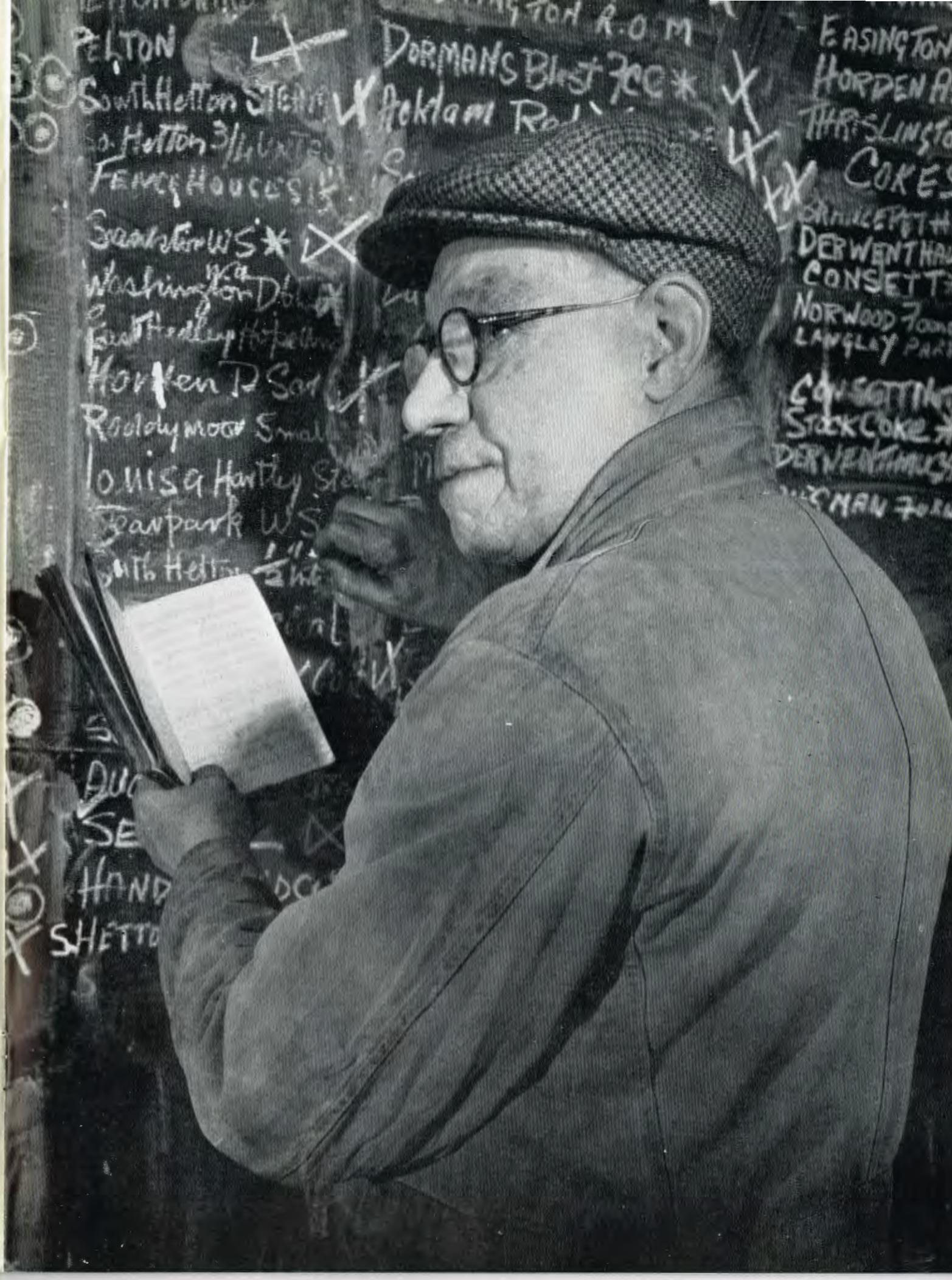
With a piece of stainless steel sheet he cut the heap of coal into four equal quarters and swept up two diagonally opposite ones into a pail. The two quarters that remained were now ready for their final grinding.

Arthur picked up a huge steel hammer with a flat head and began pounding his remaining sample of coal to a powder. It was hard work, but with thirty-five years of sampling behind him Arthur wielded his hammer easily.

After a few minutes the coal was beaten to a powder. Arthur put down his hammer and swept the coal into a heap. Then he rubbed it carefully through a fine metal sieve, bottled it, and stood it on the window ledge behind him.

"Well, that's it," he said, rubbing his hands on a clean rag. "The coal powder in that bottle is pretty well the average of what was in the train. In a way, you could reckon it's a pretty important bottle to a factory like ours. When you're spending thousands of pounds a day on a thing like coal it's as well to know what you're paying for."

J. G. C.



Arthur Nicholson—coal sampler
[Billingham Division Portrait]

Campanology, or the Art of BELL-RINGING

By P. W. B. Semmens (Billingham Division)

"Cambridge Surprise Royal," says the bellringer, and everyone in the belfry knows what he means. Here is an introduction to the mysteries of the bellringer's art—an art as Anglo-Saxon as the belfry tower itself.

REAT Britain is often referred to as the Ringing Isle, since this country possesses almost a monopoly of the art of bell-ringing. Throughout the world there are approximately 5500 peals of bells (a peal consisting of from five to twelve in number), of which all but fifty-four are in the British Isles. Even so, Scotland has only twelve peals, Ireland thirty-two, and Wales including Monmouth 169, leaving the vast total of 5226 peals (or over 35,000 bells) in England.

Elsewhere throughout the world ringing peals are confined to places which have come strongly under the British influence in the past or do so now, such as the Dominions—Australia and New Zealand especially—the United States and Portugal, which possesses the only peal on the mainland of Europe.

As anyone who has visited or heard some of the famous Continental campaniles may be surprised by these statements, it is advisable to explain what constitutes a peal of bells and differentiates it from a carillon. In the latter the bells are hung rigidly in rows, each with its own external clapper operated from a central keyboard. The bells thus constitute a massive glockenspiel, on which tunes can be played either automatically or by hand.

Striking a bell in this fashion does not produce the most mellow sound of which the bell is capable. A great improvement results if the bell is provided with means to swing, with the clapper hanging loosely inside so that it strikes the sound-bow of the bell as it swings. The bell is made to "speak" by pulling on the rope which sets it swinging. There is no connection at all between the rope and the clapper. This operation is known as "chiming."

Many hundred years ago it was found that the sound produced by a bell progressively improved as the arc through which it swung increased, until finally the bell was being rung as we know it today. Starting from a position vertically above the line of its bearings, it swings through a complete downward circle until it reaches the same position once more. The next time it rings it will describe a similar circle, but in the opposite direction. During each complete circle the bell sounds once. In order to control this movement the rope runs in a groove on the circumference of a large wheel, which may be up to ten feet in diameter. A stop, or "stay," is fitted to prevent the bell going too far past the vertical position and so winching the poor unfortunate ringer on the end of the rope to the ceiling.

It is only when bells are hung in this fashion that they can be called a true ringing peal, and it is only possible to ring changes when the bells are so hung. This is because during change ringing each bell must be kept on the balance for varying periods so that it can be made to ring earlier or later in the order.

Change ringing too is an art that originated several centuries ago, some of the older societies being formed in the sixteenth century. In every change each bell must sound once and no more. On six bells, therefore, the total number of different changes possible is found to be 720, this being what the mathematicians would call "factorial six." On 7, 8 and 12 bells the totals become 5040, 40,320 and 479,001,600 respectively, so it will be seen that there is plenty of scope.

Changes are best understood if each bell is given a number, and for this purpose the lightest bell, which has also the highest-pitched note, is given the number 1, and the rest are numbered in ascending order of their weight, which corresponds to their order down the musical scale. In any peal of bells, regardless of number, the lightest bell is also called the treble and the heaviest the tenor.

On six bells, therefore, we start with the bells ringing in order down the scale, which is written 123456. This is known as "rounds," and all changes start from and finish with this. When changes start, the first alteration in order will be to 214365. In other words, the bell that rang first in order initially has changed places with the bell that was second, and so on. The maximum number of places in the order that a bell can move each time is one, for physical reasons, so that a bell ringing (say) fifths in order could only ring in the three positions of fourths, fifths or sixths next time. A full "plain hunting" course on six bells is given here and consists of twelve changes—the simplest way of changing the order:

123456, 214365, 241635, 426153, 462513, 645231, 654321, 563412, 536142, 351624, 315264, 132546, 123456.

Each different pattern of making the changes has its own name. If a ringer says that he can ring Cambridge Surprise Royal or Double Norwich Court Bob Major, everyone else in the belfry knows what he means. A "method," as these patterns are called, can frequently be performed on any even number of bells without any alteration in the basic rules governing the order of changes. The method is given a name,



BELLRINGERS "at the ready" in the church of the village of Radcliffe-on-Trent near Nottingham

(Photo by Hess)

nowadays usually by its inventor, although the majority have traditional names. This is then followed by the type of method, such as Surprise, Court, Delight, Treble Bob, etc. To distinguish the number of bells on which it is being rung the words Minor, Major, Royal or Maximus are added, signifying six, eight, ten or twelve respectively.

Thus Spalding College Bob Major refers to the particular method called Spalding from the class of College Bob methods and is rung on eight bells. Frequently the changes are rung on

all but the tenor, which is rung last every time, rather like a drum keeping the beat. These "odd-bell" methods can usually be rung only on an uneven number of bells, but are frequently capable of performance on *any* odd number of bells. In these methods, as with the even-bell ones, there is the individual and group name of the method, followed this time by Doubles, Triples, Caters or Cinques, signifying respectively five, seven, nine or eleven bells. Among the most well known of these methods are Grandsire Triples and Stedman

Triples, Fabian Stedman being the author of the first books on ringing. Copies of these two volumes, *Tintinologia* and *Campanologia*, are very valuable indeed, and even the Bodleian Library in Oxford does not possess first editions of both. Among the doubles methods are several with unusual names, such as April Day, Reverse St. Bartholomews, Tulip and Antelope, the origins of which are very obscure.

In parts of England call changes only are rung. With these, someone in the tower tells the ringers when each change is to be made, and until his next instructions are given the bells ring in the same order. During proper change ringing the bells never ring in the same order twice, different changes being rung without break for periods up to three hours or more. The ringing of five thousand or more consecutive changes constitutes a peal.

It is unfortunate that the word "peal" has two separate campanological meanings. The first, used earlier in this article, refers to the set of bells in a tower, while the other signifies the ringing of five thousand changes faultlessly. To say that the bells rang a wedding peal while the happy couple walked down the aisle must be incorrect unless their progress was exceedingly slow, since the time required to ring this number of changes varies between two hours and three-quarters and four hours, depending on the weight and number of bells in the tower.

Peal ringing is very popular with some ringers, and there are several who have scored a thousand or more in their lifetime. Any number of changes less than five thousand is known as a "touch," although touches of about 1250 changes are called quarter-peals. It should be emphasised that ringers do not have anything written to follow during the ringing. Each keeps to the pattern he has memorised beforehand, picking his way among the other bells, which are themselves changing order.

It is thus a very good example of teamwork. One of the band acts as conductor, and his duty, besides starting and stopping the ringing, is to make alterations at set places in the natural order of the pattern being followed to produce the correct number of changes and ensure that there is no repetition. Apart from his instructions, which take the form of words "Bob" or "Single," nothing is normally said during ringing; occasionally, however, the conductor may have to correct some ringer who is deviating from his proper path.

Ringing is a very friendly "exercise," to give it its official title. We tell beginners that there are three sides to it: physical, intellectual and convivial. The physical speaks for itself, especially when it is mentioned that the heaviest bell at present is the tenor at Liverpool Cathedral, which weighs 82 cwt. and was first heard ringing, together with the other eleven bells, to welcome the Queen back to England after her tour of Canada and the United States. On the intellectual side there are the complicated patterns to learn and remember, while the

convivial aspect is not covered completely by the drink in the "local" after the weekly practice. A visiting ringer is always very welcome in any tower, and I remember while we were ringing in Oxford for the birth of Prince Charles a ringer from Victoria, British Columbia, entered and was invited to join us.

In the course of my ringing career I have so far rung in nearly two hundred different towers, and compared with some of my contemporaries this is quite a low total. On some occasions even, while waiting for a train connection, I have heard the bells ringing from some nearby church and after investigating have been invited to have a ring before continuing on my way.

Throughout England there are many ringing societies, the majority of them being territorial associations whose sphere of influence includes the whole of a county or diocese but may cover two or more adjoining ones, such as the Durham and Newcastle Diocesan Association. There are also non-territorial associations whose members may live in any part of the country. The most famous of these are the Ancient Society of College Youths and the Society of Royal Cumberland Youths. At one time these two societies, then almost the only ones in existence, were deadly rivals, and this rivalry is even now kept alive by the rule that no one may become a member of both.

Ringing appeals to many classes of people. In the country many of the local ringers are farm labourers, while university students and graduates frequently take part in the exercise. Even Dorothy L. Sayers in her book *The Nine Taylors* has written a detective novel in which a peal of bells and their ringers figure largely. Although not a ringer herself she has succeeded in being technically correct throughout. No one has yet succeeded in doing all that there is to do in ringing, simply because it has no end. Comparative beginners too can achieve things which have not been done before.

At Billingham seven members of the staff are ringers, all but two being in the Research Department. Their status with the Company ranges from Associate Research Manager to Laboratory Assistant. In Plastics Division, the only other part of I.C.I. with which I have come into contact, there are at least two ringers.

Generally throughout the country there is a dearth of ringers, and many fine peals of bells are silent for lack of people to ring them. If this article stimulates anyone's interest in the art, I am sure that a local tower will be only too pleased to take him or her on as a beginner. Ringing offers a wealth of interest to anyone who perseveres through the first rather confused and maybe slow stage of learning. Those taking it up will know that, besides the first and most important aspect of serving the church whose bells they ring regularly, they will be helping to keep alive a centuries-old and typically English art.



A BELL HANGING normally at rest. Note the large wheel along the grooves of which the bellringer's rope runs.



A typical Dutch bulb field in all its glory

HOLIDAY IN HOLLAND

By James B. Pears (Intelligence Department)

"Welkom thuis, mijnheer!" say the kindly people of Holland. If you visit this beautiful land of plenty you will surely want to go back for more.

AMSTERDAM has been called Venice of the North. The plan of the old part of the city has the appearance of a spider's web—the roads, with their hundreds of bridges, radiate from the centre like warp threads, scores of canals (*gerachten*) passing beneath them like the weft. Along tree-lined canal banks stand the picturesque gabled mansions of powerful merchants of the Dutch Golden Age, when rich cargoes of spices from the Far East piled up the money in the iron-studded chests of the shipowners; when art flourished—the

days of Rembrandt, of Franz Hals and of other great masters.

Our first impression of Amsterdam was that the Dutch are, or have been, the world's experts in the construction of decorative gables. Consequently they tend to twist their houses sideways by our standards, with the gable end facing the street. The general appearance is a jagged picturesque skyline which is pleasing, unusual and un-English. That first day we just walked about, too interested and fascinated to want to do anything else except, of course, to pause at decent



Fishing boats at Volendam



[By courtesy of the Royal Netherlands Embassy]
Amsterdam—Venice of the North

intervals for meals or refreshment. This holiday was going to be really different, beyond our wildest dreams.

A simple café provided us with our first lunch. *Kippensoep* (chicken broth and noodles) was followed by a plateful of lamb (or veal according to choice) which had the appearance of more than a week's meat ration for one person in Britain. The fried potatoes and vegetables were served Dutch fashion, cooked in butter. Then followed a generous fruit sweet *met slagroom* (whipped cream) and coffee. What more do you want?

After lunch we walked through the main shopping centre, Kalverstraat, which we found decorated with banners, streamers and pictures representing the personalities and highlights of the city's history in celebration of the seventh centenary of the granting of the city's charter in 1250—the official recognition for a town which had grown up in the delta after the damming of the Amstel river in the thirteenth century.

Next morning we descended the ladder-like stairs of our hotel to sample the *ontbijt* (Dutch breakfast)—a novel and interesting experience. The *ontbijt* consists of bread, butter and *spek* (unfried smoked bacon) and

other kinds of fancy meats cut in neat thin slices together with cheese (now *kaas* to us) and excellent coffee. Compared with our English white bread, the Dutch loaf tempts one to misquote a well-known slogan: "We thought our bread was white, but..."

All this food was laid out down the centre of a long table in the middle of a long and narrow front room. The guests as they came down simply found an empty place and sat down. Then a maid provided you with a large plate, knife and fork and asked if you wanted tea or coffee. The procedure was simply to help yourself. Having put on as good a performance as we could—and it was no mean one—we decided that everyone at home sitting down to the orthodox English type of breakfast that Sunday morning simply did not know what they were missing!

One of the things to do when on holiday in Amsterdam is to go for a trip by water round the canals of the old city—what is called a *rondvaart*. The Amsterdam waterbuses (the modern Dutch gondolas) are low-built to enable them to pass under the shallow bridges and tunnels and negotiate the sharp bends and right-angle corners in the comparatively narrow canals of the old city—often with expert skill on the part of the helmsman, since sometimes there are literally no inches to spare.

The historic old buildings are seen from the water to good advantage. Our journey by water took us down the

Achterburgwal to the Rokin and lower Amstel, and back by other canals to finish up with a brief tour round the docks. We passed by the waterside flower market with its moored barges laden with boxes packed with growing plants and flowers, through long low tunnels and under bridges which opened for passage of larger water traffic by means of a quaint-looking overhead mechanism.

Next day we decided unanimously to try the longer Volendam-Marken trip and visit those outlying places on the Zuider Zee where the natives still go about in national costume.

The tiny village of Volendam and its inhabitants' dress, behaviour and customs have gone unchanged down the centuries through the turmoils of war and peace. When you have seen these tough, hard-working people in real life walking about on their normal day-to-day tasks literally dressed like Dutch dolls complete with wooden shoes, and seeming perfectly natural and comfortable, you are tempted to wonder at the indestructible spirit which maintains their continued existence in this oasis amid the high-speed high-pressure civilised world so comparatively close around them. As it is, their very livelihood (fishing in the Zuider Zee) is threatened by the Zuider Zee drainage scheme; but so long as there remains water to float their boats they will probably carry on fishing. That is their tradition; and likewise of the Island of Marken too.

The houses of Volendam and of Marken are mostly half timbered, half brick, with high-gabled red-tiled roofs. On the Island of Marken the older ones are built with the dwelling quarters raised up on piles to lift them above flood level—a type of construction no longer considered necessary since completion of the Zuider Zee dam some seven or eight years before the last war, when seasonal flooding ceased.

Interiors resemble nothing so much as a china shop, so numerous are the attractive-looking plates and crockery displayed all around, largely for mural decoration. Ceilings are high, and from their heavy beams are hung home-cured hams to season. The cupboard-type beds resemble in some respects those to be seen in the old Scottish crofters' cabins or in Robert Burns' cottage. But the dominant impression made on the visitor by these Dutch primitive dwellings is the scrupulous cleanliness. And yet, when you pass by down a village street at any hour of the day or night (as we discovered later during a four days' stay in a village in the south-west corner), you do not particularly notice *mevrouw* the housewife making any great show of scrubbing and cleaning, though scrub and polish she must at some time or other to maintain the spotless freshness everywhere apparent.



Cheese market at Alkmaar



To market in Marken



Giethoorn, the Little Venice of Holland

Costumes of Volendam are the traditional "Dutch Doll," from the shapeless baggy trousers, tunics and scarves of the men to the striped aprons, blouses and full dark skirts of the women. The beautiful lace coif (Dutch bonnet to you) is a very charming and costly article in real life, and is actually the Sunday headgear of the Volendammer women. It is only one type of Dutch bonnet.

On the Island of Marken costumes are quite different and rather more elaborate and picturesque. Here certain articles of apparel are so elaborately and beautifully made as to be comparable to church vestments. Many are the variations of costume for different occasions such as baptisms, weddings, funerals, seasonal and religious holidays and all the rest.

When a young man of Marken wants to "pop the question" to his girl friend he sets to and decorates a pair of wooden shoes for her with fancy carving. This takes quite a while as evening homework. When they are finished he presents them, and if she decides to say yes she must look coy and go off home and start making a couple of pillowcases in fancy stitching. Only when these are finished and presented several weeks or months later is the couple permitted by age-old custom and tradition to regard themselves as engaged. Thus they have ample time to consider.

From Volendam harbour it is only a short trip by steam launch to the Island of Marken. At the end of the day you get back on to the steam launch for the longer final sea trip home to

Amsterdam down the Zuider Zee. To starboard there is the low receding coastline to the south of Monnikendam, ahead and to port the great scintillating sheet of water, sparkling in the evening sunlight.

We had coffee and cakes beneath the after awning while we chatted with two American youths from San Francisco and told them all about London, where they were going next day—London, which seemed so far away, so different from all this. We reached the locks at the entrance to the harbour, then past the freighters from Sweden, Denmark and elsewhere, past the great Dutch liner *Oranje*, to tie up at last alongside the Central Station quay from which we had started.

Was it some American film star visitor who originated the expression "So this is London"? As we sit in the house of one of many good Dutch friends, being plied hospitably alternately with drinks of the very best gin, beer and home-made cherry brandy, we raise our glasses to a free translation of the Dutch equivalent: *Mooi Nederland!* And from the mouths of the good people—from the very land itself—comes echoing back the slogan

Welkom thuis, mijnheer! Welkom thuis, mevrouw!

Make up your mind to visit Holland and you will surely want to come back for more.



A Dutch lift bridge

I.C.I. NEWS

LADY McGOWAN

The Magazine records with the deepest regret the death of Lady McGowan on 8th April. Lady McGowan sailed with her husband to South Africa on 17th January but became ill soon after their arrival in Cape Town. On medical advice it was decided that she should return, and her daughter, Mrs. D'Arcy Stephens, went out by air in order to look after her mother on the voyage. Unfortunately her condition worsened soon after her return. Lord McGowan returned to London by air from Madeira and was able to reach her bedside before she died.

The Chairman, Mr. John Rogers, writes:

I first knew Lady McGowan about forty-five years ago, when I went to work in the Glasgow office of Nobel's Explosives Company. At that time she was, of course, married and the McGowans were raising a family; in addition to that Mr. McGowan, as he then was, was clearly on the threshold of great advance, and perhaps the greatest contribution to that advance, apart from his own ability, was his wife's support. Her domestic duties did not prevent her appearing in such places and in such ways as might mean most to her husband in his very laudable desires as to the future. She was always calm and tolerant and had a good word to say for everyone, although she was not in any way a person who could not size up others; she could always do that very well, but never in an intolerant or spiteful manner.

I well remember the days when the Nobel merger demanded removal of the head office from Glasgow to London, and about that time I asked Jean what she thought of the idea of removing the household to London. Her answer was very typical of her nature and sense of duty. She said "Of course, I will lose or see less frequently many of my friends, but I hope to make others happy in London," and then she added "Whatever is good for Jock is good for Jennie." Throughout her life

that was her attitude towards her husband, and Lord McGowan knows well how much he owes to it.

Jean was always devoted to her children and, in later days, to her children's children. Nevertheless that did not interfere in any way with the extraordinary ability she possessed of keeping up with any rise in position or alteration in environment. In all the steady rise that took place in fortunes and position she never forgot or failed her old friends and was always most charming to the new ones. She travelled abroad a great deal with her husband, and there again was a tremendous support to him. In all countries one meets people who speak in the highest manner of Lady McGowan, and I am certain there is no one anywhere who ever spoke or could think of speaking of her in any sense other than the highest. She did not enter into public life in its broadest sense, perhaps, but in so far as her husband had to do so she filled whatever place was necessary and important at the time.

I have stated what I conceive to be her great qualities. Everybody knows how they have operated in life, and I cannot say any more at this time than that a great person has passed on, leaving here hundreds and thousands of people who think of her as a great lady and a splendid wife and mother. We may not see her like again.

METALS WIN FIRST AID TROPHY AGAIN



Dr. Cronshaw (left) presents the I.C.I. First Aid Trophy to the leader of the Marston Excelsior team, Mr. H. Reynolds. Behind Mr. Reynolds are the other members of the team, Messrs. J. Gaunt, F. Downing, H. Hale and F. Banks (reserve). The works medical officer, Dr. H. Somerville, stands on Dr. Cronshaw's left.

THE cream of I.C.I. first aid teams met for the thirteenth annual first aid competition at the Central Hall, Westminster, on 13th March. For the second year in succession a Metals Division team carried away the trophy. The runners-up, also for the second year running, came from Plastics Division.

The entry of Wilton brought the number of teams competing to twelve for the first time in the history of the competition. The winners, from Marston Excelsior Works, Wolverhampton, scored only $5\frac{1}{2}$ points more than Plastics team from

Darwen, and between the latter and the Leathercloth team there was a difference of only half a point. The individual tests were judged by Dr. J. Gwynne Morgan, C.B.E., T.D. (Chief Medical Officer, Mond Nickel Company), and the team tests by Dr. A. C. White Knox, O.B.E., M.C. (Surgeon-in-Chief, St. John Ambulance Brigade). Both doctors commented, in summing up the results, on the high standard achieved by the teams, and confessed that it had not been easy to adjudicate between them.

The tests were staged with all the realism that competitors in these first aid finals have come to expect. For the team test a highly convincing boiler house had been rigged up. An apparently real boiler, complete to the last gauge and rivet, was the scene for an explosion which sent the unfortunate boilerman reeling down a flight of stairs to lie unconscious on the ground with concussion, shock, injuries to the collar bone, ribs and knee-cap, and suspected internal haemorrhage. In



The winning team tend an injured boilerman in the team test, while Dr. White Knox looks on

Team	Team Test (200 pts.)	Individual Test (200 pts.)	Combined Tests (400 pts.)
1. Metals (Wolverhampton) ..	133	137	270
2. Plastics (Darwen) ..	113	151 $\frac{1}{2}$	264 $\frac{1}{2}$
3. Leathercloth (Hyde) ..	123	141	264
4. General Chemicals (Randle) ..	147	111	258
5. Alkali (Wallerstone) ..	173	81	254
6. Wilton (Works Services) ..	115	133 $\frac{1}{2}$	248 $\frac{1}{2}$
7. Billingham (Trimpell) ..	150	98	248
8. Lime (S. Central Workshops) ..	130	81	211
9. Salt (Winsford) ..	108	95 $\frac{1}{2}$	203 $\frac{1}{2}$
10. Dyestuffs (Huddersfield) ..	88	114	202
11. Paints (Slough) ..	73	121	194
12. Nobel (Ardeer) ..	95	83 $\frac{1}{2}$	178 $\frac{1}{2}$

the individual tests the members of the teams encountered either a case of electrocution and burns; a diabetic who had injured himself in a fall during an insulin coma; an epileptic who had suffered injuries by falling in a fit at his lathe; or a man who had been struck unconscious while working near a leaking gas main.

"The situations dealt with by the teams may have seemed artificial to some onlookers," said Dr. C. J. T. Cronshaw, who presented the trophy to the winners and medals to the winners and runners-up. "But in fact they have a very real background." Last year 150,000 industrial injuries had been suffered in I.C.I. works throughout the country, and there was very great scope for the first aid skill manifested in the competition. Apart from the unrecorded day-to-day services of the first-aiders in I.C.I. there had been three cases in recent years of life actually being saved by their prompt and efficient attention.

The members of the winning team—Mr. Harry Reynolds, Mr. John Gaunt, Mr. Harry Hale, Mr. Frederick Downing—and their reserve, Mr. Frederick Banks, have often been called on to deal with emergencies in the Marston Excelsior factory.



The captain of the Plastics team, Mr. C. Knowles, undergoes his individual test, observed by Dr. Gwynne Morgan

They are all first-aiders of long experience. All five are members of the British Red Cross Society or the National Hospital Service Reserve, and three of them belong to both organisations. The team captain, Mr. Reynolds, also finds time to be a shop steward of the Amalgamated Engineering Union and an assistant scoutmaster. Mr. Gaunt, also a shop steward, is trainer of the Marston Excelsior football team. Mr. Banks receives his gold watch for 30 years' service this year.

The hard work of the day completed, teams and their supporters adjourned to the Cora Hotel for dinner. They were welcomed by Mr. Grint, Chief Labour Officer, who again expressed the Company's appreciation of the work put in by the teams. In particular he thanked the medical officers and all those others who had worked behind the scenes and spared no effort in training the 70-odd teams which had taken part in the competition. Mr. Grint concluded with an exhortation to Divisions to greater efforts in stimulating new recruits to

first aid work from among the young employees of the Company. There was also a special vote of thanks to Mr. Harris, Head Office maintenance engineer, for his most successful stage effects and to Miss Hart and other members of the Central Labour Department for the manner in which the competition had been organised.

Later the party went to the Prince of Wales Theatre to see *Peep Show*.

The Late Sir Andrew Duncan

The Rt. Hon. Sir Andrew Duncan, G.B.E., who died on 30th March, had been a director of I.C.I. since January 1945. He was originally appointed a director in September 1939, but resigned a few months later on his appointment as President of the Board of Trade. Later in the war he became Minister of Supply, and it was after relinquishing this post that he was reappointed a director.

The Chairman writes:

"I knew Sir Andrew Duncan for about thirty-five years, and I think, therefore, that I am a fit and proper person to make a few remarks concerning his life and work.

"As a boy in Irvine he was always highly placed at the Academy and equally so when he studied law. When I first knew him he was in Messrs. Biggart, Lumsden's office in Glasgow. To all industrialists connected with engineering and shipbuilding Biggart, Lumsden & Co. were famous, and in the days of which I am speaking the two persons who dealt with industrial labour affairs in the hands of that concern were the late Sir Alan Smith and Sir Andrew Duncan, though, of course, they had not those titles then.

"As time went on Sir Andrew became a great man in the world of industry, and his interests spread to electricity boards, coal control and so on. In the two world wars he served his country in most important positions, and I had the honour during the last war to work under him when he was Minister of Supply.

"He was a man of straightforward thought and speech and at our board table he could always be relied upon to see the subject in hand in its proper perspective and express his views quite clearly and with emphasis.

"It is very regrettable that he should have been removed from us so early, for I am sure he would have found some very reasonable and proper way of clearing a good deal of the steel difficulty.

"One of his great characteristics was loyalty to old friends and people with whom he grew up in the Royal and Ancient Borough of Irvine, of which he was so proud."

Presentation to Dr. Freeth

It was natural that the retirement of Dr. Freeth, recorded in the April issue of the Magazine, should not be allowed to occur without his very large number of friends in the Company wishing to mark the occasion. This was done on Tuesday, 25th March, when the Chairman made a presentation to Dr. Freeth at Imperial Chemical House. Several members of the Main Board and of Divisional boards and many of the staff of Head Office were present when Mr. Rogers handed Dr. Freeth a cheque together with certain gifts already selected by him.

The Chairman paid tribute to Dr. Freeth's work, not only

in the Company but also in national affairs, and recounted some of those semi-legendary tales which have become known everywhere in the Company as "Freeth stories" and which demonstrate his lively humour and aptitude for lightening the most serious occasions.

In a book handed by the Chairman to Dr. Freeth containing the names of those who had contributed to the presentation gifts, was written the following inscription:

"To Francis Arthur Freeth from his many friends in I.C.I., for whom he personifies that purifying of wit, that enlarging of concept, that enriching of memory, that enabling of judgment, that we call Learning."

HEAD OFFICE

Mr. Rogerson seconded to War Office

At the request of the Secretary of State for War, backed by a letter from the Prime Minister, Mr. Sidney Rogerson, I.C.I.



Mr. Sidney Rogerson

Publicity Controller, has been seconded to the War Office for a period of eighteen months to two years as Adviser on Publicity to the Army Council. He began work at the War Office just after Easter.

Mr. Rogerson joined I.C.I. in 1930 as Press Officer. In 1937 he was charged with the duty of forming a Central Publicity Department. He was given the title of Publicity Controller on the introduction of the controller system in 1944.

During Mr. Rogerson's absence Mr. Galvin Wright, for some years deputy head of the department, will act as Publicity Controller. Mr. Galvin Wright, who is best known for his work in connection with films and exhibition displays, which have earned so much credit for I.C.I. since the war, has been with the Company almost since its formation.

Mr. Rogerson has always maintained a lively interest in military affairs. He was commissioned into the West Yorkshire Regiment straight from Cambridge in 1914 and served with the 2nd Battalion of the regiment and on brigade and divisional staff in France from 1916 to 1919. Between wars he was active as organiser of the London Branch of the West Yorkshire Old Comrades Association, and his two books—*Twelve Days* and *The Last of the Ebb*—based on his war experiences are still highly valued as records of the first world war.

ALKALI DIVISION

Alkali Club wins Cheshire Soccer Cup

The final of the Cheshire County Amateur Cup Competition was played on Saturday, 29th March, between I.C.I. (Alkali) F.C., who won the cup last year, and Lostock Gralam F.C. Considerable interest had been shown in the clash of these two teams, because Lostock is also a local team and has had some considerable successes during the past two seasons. The game was played under extremely difficult conditions, with bitterly cold weather and a very high wind.

The game began with I.C.I. struggling against the wind and for the first five minutes Lostock were superior, but I.C.I. fought hard and after eighteen minutes' play were justly rewarded by a goal from Bell, the outside right. After thirty-two minutes' play Hewitt, the Alkali centre-forward, made a brilliant 30-yard run, beating the goalkeeper with a well-placed shot and putting the Alkali team two up, that score remaining until half-time.

In the second half the Alkali team had advantage of the strong wind. Under continuous pressure the Lostock defence was forced to convert into goal a shot by the Alkali outside left, Sawyer. The Lostock team fought back, and after the I.C.I. goal had recovered from one or two spasmodic raids, Moncrief, the Lostock inside right, scored, thereby reducing the lead to 3-1. I.C.I. immediately retaliated by attacking again and again. Sawyer received a well-placed ball on the left wing and ran through to shoot past the oncoming goalkeeper for I.C.I.'s fourth goal. The I.C.I. team continued to press until the final whistle and ran out worthy winners with a score of 4-1.

The cup was presented to George Higgins, captain of the Alkali team. This will be the sixth time that Alkali F.C.'s name has been recorded on the cup: they won it for four successive pre-war seasons as well as last year.

Works Manager in Cheshire Broadcast

Mr. J. Robin Allen, our Lostock works manager, is well known to readers both of the *Magazine* and *Cheshire Life*. He is now fast becoming known to a wider public as a broadcaster on the Northern Region and recently contributed to yet another magazine: the broadcast "Country Magazine."

Though his parents were "foreigners" from Surrey and Essex, Mr. Allen was born and bred in Cheshire and his mother cut the first sod of the new Castner-Kellner works at Weston Point a few weeks before he was born. He grew up to love Cheshire men and all things Cheshire, and all his stories have either a Cheshire historical flavour or are rich in Cheshire lore and expressions. It is not surprising, therefore, that a couple of years ago he was asked to broadcast about Cheshire on the Northern Region.

Then, six weeks ago, he went off to represent Cheshire in "Country Window," a discussion between a Cumberland colonel, a Yorkshire farmer, a Lancashire naturalist and himself. To be asked to this was indeed high praise, because it is an unscripted feature and all four broadcasters talk quite freely to give the whole thing the feeling of an intimate fireside chat. Their talk ranged from country matters and natural history to such widely varied subjects as Cheshire pits and marl, fell-walking, and lowering a certain well-known lightweight from the Alkali Division down Beeston Well.

A few weeks ago John Bridges, the head B.B.C. producer from London, came up to make a feature on Cheshire for "Country Magazine." Robin Allen was an obvious choice. Last week-end, therefore, they settled down in "The Smoker,"

a famous inn not far from Lostock Works. (It is, incidentally, near Smoker's Brook, and both were named after an almost legendary hunter of Lord Warren de Tabley). In this recent edition of "Country Magazine" Robin Allen took the floor with a commercial and a home cheese-maker, a 70-year-old keeper from Oakmere, and a basket-maker-cum-thatcher-cum-pub-keeper from Willington. The show was scripted this time but nevertheless came over extraordinarily naturally and might well have been just an informal discussion in a country pub.

BILLINGHAM DIVISION

Tribute from Portuguese President

It was a proud occasion for Billingham when Portugal's new ammonia plant at Alferrarede was opened on 15th March.

The plant had been designed by Billingham engineers and technicians, and Billingham men had helped in its construction. Billingham chemists, process workers and tradesmen had assisted in the start-up of the new plant, and the Portuguese chemists and engineers who were to control it had been trained in the Billingham factory.

The plant was opened by the President of the Portuguese Republic, General Craveiro Lopes. The opening was attended by 450 distinguished guests, among them a delegation from Billingham Division which included the Division chairman, Dr. G. I. Higson, and two members of the Division board, Mr. P. Mayne and Mr. W. J. V. Ward. Both the chairman of the chemical company which owns the new



Mr. J. Robin Allen



Key men from Billingham at Portugal's new ammonia plant

factory and the Portuguese Minister of Economy paid tribute in their speeches to the part played by I.C.I. at Alferrarede and to the skill, efficiency and co-operation of the key men

from Billingham. At the conclusion of the ceremony the President of Portugal invested Dr. Higson with the Insignia of Industrial Merit in recognition of I.C.I.'s contribution to a project which was, he said, of the greatest importance to the nation.

DYESTUFFS DIVISION

County Chess Player

A member of the I.C.I. Blackley chess team in the Manchester and District League, Mr. E. G. Ansell, was recently chosen to play for Lancashire on three occasions: against Cheshire, Northumberland and Durham. His score in these matches, against strong opposition, was one win and two draws.

Mr. Ansell first took up the game seriously five years ago while at London University, where he became a regular player for the university team. He competed in the Hastings Christmas tournament in 1948, 1949 and 1950, finishing second in his section on the first two occasions and being promoted each time into a higher section. He finally finished top in his section of the Premier Reserves tournament. When Grand Master Yanofsky played thirty-five players simultaneously in a display at Manchester a short time ago Mr. Ansell was one of the twelve players who managed to hold Yanofsky to a draw: the others all lost.

Mr. Ansell joined Dyestuffs Division in November 1951 as a recruit chemist. During the past few months he has played for the Blackley Recreation Club's first team and has helped them to win the championship of C Division of the Manchester and District League.



County chess player from Blackley: Mr. E. G. Ansell

GENERAL CHEMICALS DIVISION

Heavy Chemicals Productivity Team

The General Chemicals Division has had a special interest in the productivity team from the British heavy chemicals industry which has just returned from a visit to America.



Mr. J. Grange Moore

Not only did it supply two of its members, but one of them, Mr. J. Grange Moore, was chosen for the important position of team leader. For the past three years Mr. Moore has been deputy works manager of Pilkington-Sullivan Works, where latterly he has been closely concerned with the application of work study.

The other General Chemicals Division member of the team was Mr. George Leather. A boilermaker at Gaskell-

Marsh Works (where he served his apprenticeship years ago), Mr. Leather has earned high distinction in wider fields as a works councillor and as a member of the committee of management of the I.C.I. Workers' Friendly Society, of which he was recently appointed a trustee.

In preparation for their tour and to gain practice in the work which lay ahead the team made a round of visits to representative chemical works in this country, where they carried out the same kind of investigation they were to make in the U.S.A. The last of these to be visited was Pilkington-Sullivan Works in Widnes.



Mr. George Leather

LEATHERCLOTH DIVISION

A Dog's Life—with a Difference

A reversal of the accepted idea of a cat and dog life has been



Mr. Read's cat and her adopted family

revealed by the animals owned by Mr. C. Read of the Mixing Department.

Mr. Read's cat and dog both decided to become mothers at the same time. Faced with so much young life in the form of pups and kittens, the harassed mistress of the house decided to drown the latter.

To the utter astonishment of all concerned the cat immediately adopted a share of the puppies, and has been mothering them ever since. As the accompanying photograph shows, foster-mother and foster-children are both well content with this unusual arrangement.

METALS DIVISION

Mr. A. H. Hemus Retires

Asked what the words "Mr. Hemus" conjured up in their minds, many hundreds of residents in Smethwick and Selly Oak would at once reply "His pipe."

They would not be referring to a favourite tube among all those Mr. Hemus guided through Allen Everitt Works, but rather to the constant and much-loved companion sharing photographic honour with him here.

It is fairly safe to say, though, that when Mr. Hemus first joined the Company he did so alone. For at that time—47 years ago—he was only 15. With or without the aid of tobacco, he progressed rapidly in his training as an engineer and by 1913 occupied the responsible post of chief draughtsman at Elliott Works. This factory, where he rose eventually to the position of manager, naturally remains—in Mr. Hemus's own words—his first love, despite the six happy years as factory manager at Allen Everitt Works which closed his Company career in March 1952.

Presentations from the staff, the Social Club and the Works Council testified to the affectionate respect which Mr. Hemus earned during his short stay at Smethwick.

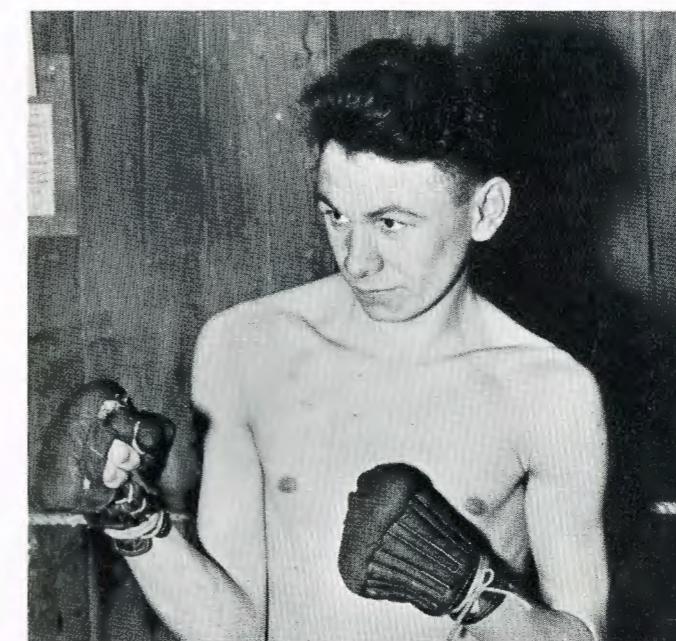


Mr. A. H. Hemus

A Boxing "Hope"

Terry Taylor, a 17-year-old carpenter and joiner's apprentice of Steatite and Porcelain Products Ltd., is thought by the Kidderminster Boxing Club and the Worcester Cross Youth Club to be a bright prospect for future honours. Trained as a boxer since he reached the age of 11, Terry has fought innumerable amateur contests and is now fighting at 9 stone 7 lb. in the featherweight class. This season he has enhanced his most impressive record with success in 15 out of 17 bouts, including the semi-final of the Midland Counties open championship and a series of eliminating rounds in the National Association of Boys' Clubs area and national championships, in which he successfully contested a semi-final at Goldthorpe, Yorkshire, on 22nd March.

Terry is regarded as one of the best local discoveries for some time. His achievements are mainly attributed to the



Steatite's Terry Taylor in training

devastating speed of his punching, particularly with his left. His modest approach to the game provides a sound basis for furthering his ambition to turn professional. Having disposed of his opponent at Goldthorpe, his next step is the final of the contest at Leeds for the championship of the British Isles.

NOBEL DIVISION

End of a Marathon

When he retired at the end of March Mr. David Martin, of Ardeer Blackpowder Department, could look back on no less than 52 years' service. He could also look back on many years of youthful successes on the running track.

Mr. Martin specialised in one- and two-mile races, under the professional name of David Morrison. In 1906 he won the Musselburgh Mile and four years later the New Year Mile, two of the biggest professional races of their kind in Scotland. During that period he also won the half-mile and two-mile races at the Powderhall meeting. Between 1909 and 1914 David Martin competed most successfully in Scottish games, both in the North and the Borders. Over the middle distances he had victories at Bridge of Allan, Braemar, Inverness, Thornton and many other places. In 1915 he was third in the fastest two miles run up to that date; the winning time was 8 min. 58 sec. off the mark, but Mr. Martin was not far behind.

These and other successes have provided Mr. Martin with material for much pleasant recollection. As Dr. R. H. H. Brown, chief superintendent of Blackpowder Department, said at a presentation ceremony: "David's services with the Company have not been over a short distance, but have been like a marathon sustained in faithful service over many years."

Knight of the Road

Mr. J. A. Smith, transport supervisor at Sabulite Factory, has been awarded the *News of the World* title "Knight of the Road." Mr. Smith's interests are in road safety, and as secretary of the Local Road Safety Committee of Haswell

Parish he has organised many competitions for children in the village. He has also organised cycling competitions and given lectures on how to ride and maintain a cycle. More recently he has lectured on car maintenance to motorists, and he has shown a film on driving at Durham County Police headquarters. He has also given his services at Aycliffe Durham Police Motoring School.

The *News of the World* award was handed to Mr. Smith by Chief Constable A. Muir of Durham; Mr. W. R. Moore, works manager at Sabulite Factory, was also present at the ceremony.

The safety record of the district in which Mr. Smith has an interest is excellent, and his ideas of safety propaganda are being applied over a much wider area of the county.



Mr. J. A. Smith

PAINTS DIVISION

Penguin Paint

Some three years ago a Doctor Sladen rang up Paints Division with an unusual request: he wanted some paint suitable for marking seals in the Antarctic. Dr. Sladen, a Cambridge scientist, was a member of the Falkland Islands Dependencies Survey, which at that time was preparing an expedition to the South Polar regions in the ship *John Biscoe*. His enquiry caused quite a flutter in the Division's Development dovecotes, since no seals were available locally on which trials could be conducted.

With a certain amount of diffidence Aircraft Identification Paints were put forward, and a creditably performed rush job at Stowmarket ensured a delivery to the *John Biscoe* just before she cleared London Docks on the voyage south.

Now Dr. Sladen has been in touch with Paints Division again, this time to say that the paints had done their job—though not the job they were supplied for. Mr. P. J. Massey of Transport Sales Control admits that he was nervous when Dr. Sladen telephoned. "I half expected to hear a serious complaint that the paint had fallen off the seals and made nonsense of the scientific plotting of their migration. During our chat Dr. Sladen mentioned that the main work on the Antarctic seal had been carried out by other members of the Survey, who had employed other methods of seal marking; but he himself had found these paints most useful for marking penguins!"

WILTON WORKS

The Man who Fought a Giant

Mr. Bob Gray of Olefine Works is well known at Wilton as an amenity attendant and first-aider. Few of his colleagues know that before the war he was a promising middleweight, boxing under the name of Eddie Burns. One of Mr. Gray's best stories about his boxing career concerns a certain French heavyweight:

"In October 1929 Dick Smith, ex-heavyweight champion of

Great Britain, sent for me to act as sparring partner to a young heavyweight from France," says Mr. Gray. "My meeting with the young heavyweight and his manager in Dick Smith's hotel at the Elephant and Castle astounded me. The heavyweight, a mere boy, was a giant—Primo Carnera.



Mr. Bob Gray with Primo Carnera

"We reached an agreement and arrangements were made for us to box at a press show before Carnera's contest with Jack Stanley, the ex-policeman, at the Albert Hall.

"I was nervous entering the ring for the first time against a giant of 20 stone. To give you an idea of his size, his foot covered a *News of the World* folded lengthwise in half. His hands could not go into an ordinary boxing glove and covered the seat of a wooden chair.

"The gong sounded and I was in the ring with an unknown quantity, being watched by the Press and notables in the boxing game. I sparred for an opening and at the same time was prepared to 'do evens' to get out of his way if he sent any punches at me. I was surprised at the lightness in movement of such a big fellow. When his left hand shot out I slipped and countered with a right under the heart. This gave me confidence, and I now knew I could get out of his way. The boy had not had the experience in the game. He got me a few times with glancing blows from his left hand which shook me from head to toes. His punches felt like an iron rod with no give at all.

"After Carnera had disposed of Jack Stanley in the first round of their fight at the Albert Hall he had an engagement giving exhibitions at the Alhambra Theatre. I was engaged to spar with him along with three others: Jack Don, Islington Flyweight; Capt. Smith, an Australian Cruiserweight and variety artist; Harry Gold of Ealing, a heavyweight; and myself, a middleweight. We boxed three times a day, one round at each session for a fortnight.

"Then one day I misjudged Carnera's right coming over. I stepped into it as I went in to deliver a short right myself. My punch never reached the target. All I know about it was that I found Carnera, his manager Leon Sée and my wife sitting around me with a doctor, a stethoscope round his neck, when I came to nearly three hours later. My wife told me that Carnera had remained by my side all the time I had been out. I pulled myself together and after taking a capsule given to me by the doctor I was fit for the next session half an hour later. This was taken very lightly, and Carnera did not sling any rights over—thank goodness!"

FAR EAST

Mrs. H. Irwine

We have to record with deep regret the death on 6th March in London of Mrs. Harold Irwine, wife of Major H. York Irwine, who until his retirement in 1951 was head of the Far East Department.

Mrs. Irwine had a wide circle of friends both at home and abroad, and her kindness and hospitality were particularly enjoyed when she was in China and Japan during the period 1919-38. She was known to many I.C.I. people, who will miss her and sympathise with her husband in his great loss.

* * *

Binding of 1951 "Magazines"

The Kynoch Press have kindly agreed to bind the 1951 *Magazines* for those members of the Company who would like this done. The cost will be 12s. 6d. per volume, and this will include the provision of an index for 1951, which is now being prepared. Inserts will also be bound with the *Magazines* if desired, but these—together with the set of *Magazines*—must be provided by the person placing the order.

At this stage we would ask all those requiring their *Magazines* bound to tell their *Magazine* correspondent, so that The Kynoch Press may be advised of the total order and number of indexes to be printed. Further instructions will be given later.

Crossword Puzzle

L	E	V	I	N	S	T	E	I	N	F	A	N	G
A	A	O	R	N	H	L	R						
S	C	R	U	B	A	N	T	R	Y	C	I	D	E
T	N	E	I	E	D	A	E						
M	I	L	L	I	N	E	R	R	E	S	I	N	G
S	S	E	E	I	O								
T	O	H	R	S	E	M	A	G	E	N	T	A	
A	E	H	E	E	E	G							
G	A	S	K	E	L	M	A	N	A	C	L	E	
E	T	O	U			T	S						
C	A	C	A	O	F	E	S	T	V	A	L		
R	H	R	O	I	C	R	C						
A	T	A	V	I	S	T	I	D	E	A	L		
F	L	C	E	A	N	A	U						
T	A	K	E	N	E	L	E	G	A	N	C	E	N

Solution to puzzle printed on page 108 of the April Magazine

OUR NEXT ISSUE

In the June magazine we are privileged to publish a frank account by Mr. Chambers, I.C.I. Finance Director, of the inside story behind the I.C.I. new issue of £20,000,000—why the money was needed, how it was raised, and the calculations and anxieties that attended the launching of the new issue.

Our other main article is on the Cowdale and Tunstead quarries of Lime Division. The story is written by F. M. S. Harmar Brown, who will be remembered by readers for his vivid description of the anhydrite mine at Billingham. Arthur Horowicz is again the artist, and he works this time in colour. As artist and writer these two form a team which it would be hard to better.

Our final article is from A. S. Irvine, whose last contribution to us was his notable satire "In Praise of Bulk." This time he writes on his experiences as a gourmet, from Spitsbergen in the Arctic to the northern hills of India.

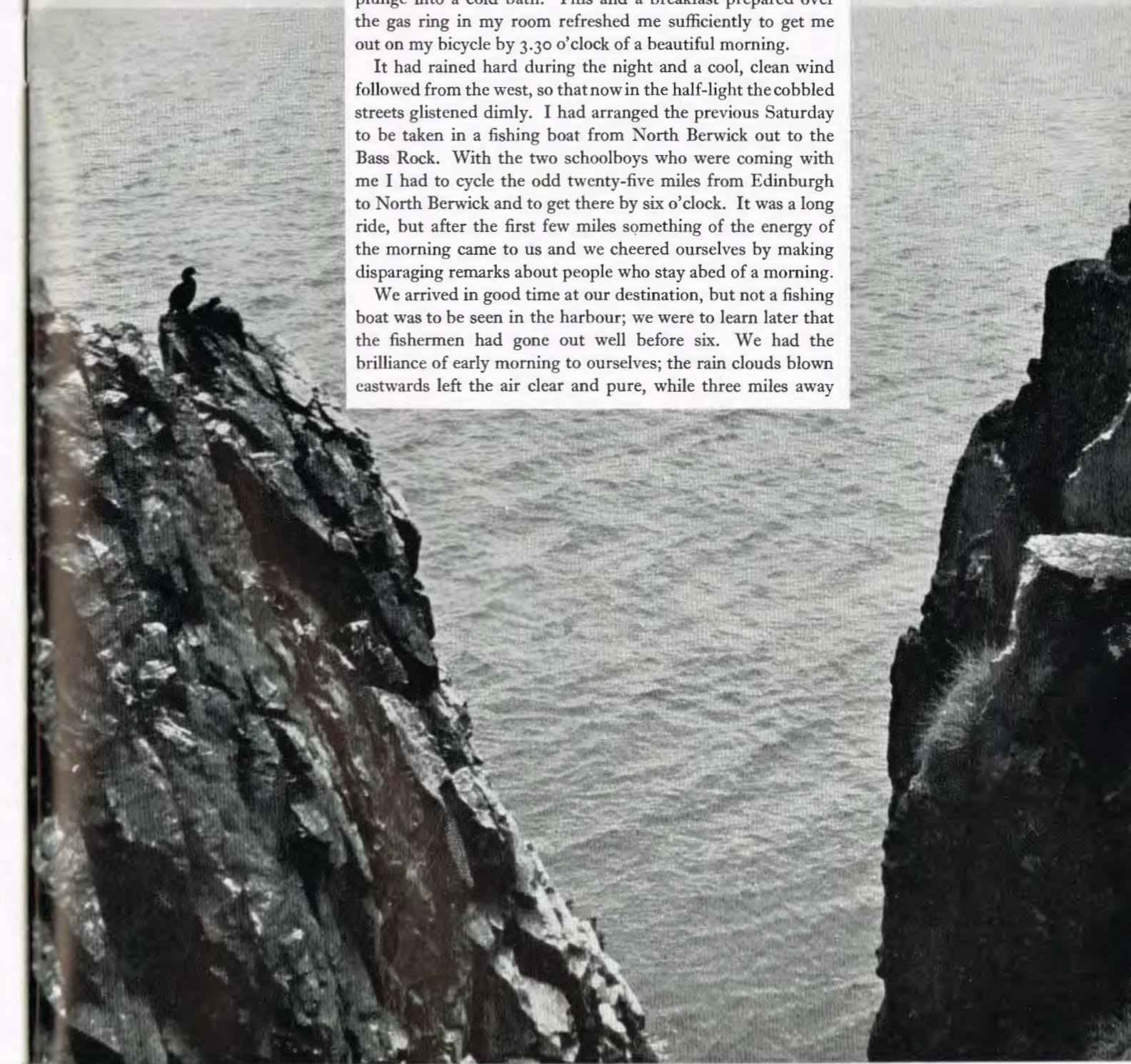
BASS ROCK

By R. Aris (Billingham Division)

At three o'clock in the morning the vitality of the human body is at its lowest. Normally, of course, you do not realise this, for the blissful oblivion of sleep cloaks it, but when your alarm goes off at that hour it is brought home to you with almost overwhelming force. Such would have been my feelings (had I not been too dull to frame them) on a Monday morning of May 1949 as I staggered from my bed to plunge into a cold bath. This and a breakfast prepared over the gas ring in my room refreshed me sufficiently to get me out on my bicycle by 3.30 o'clock of a beautiful morning.

It had rained hard during the night and a cool, clean wind followed from the west, so that now in the half-light the cobbled streets glistened dimly. I had arranged the previous Saturday to be taken in a fishing boat from North Berwick out to the Bass Rock. With the two schoolboys who were coming with me I had to cycle the odd twenty-five miles from Edinburgh to North Berwick and to get there by six o'clock. It was a long ride, but after the first few miles something of the energy of the morning came to us and we cheered ourselves by making disparaging remarks about people who stay abed of a morning.

We arrived in good time at our destination, but not a fishing boat was to be seen in the harbour; we were to learn later that the fishermen had gone out well before six. We had the brilliance of early morning to ourselves; the rain clouds blown eastwards left the air clear and pure, while three miles away





Approaching Bass Rock



Kittiwakes nesting on the cliff face

we could see the Rock, around which a cloud of white birds was already swirling.

The Bass Rock is a prominent feature of the Firth of Forth, rising almost vertically from the sea a mile or so off the coast between Dunbar and North Berwick. Volcanic in origin, it is of the same tough stone that you find in Edinburgh in the Castle Rock and Arthur's Seat. Once it was a fortress, a secure prison, and even now bits of the old walls stand near the lighthouse there. Above it all is the breeding place of thousands of sea-birds, and this was why we were visiting it.

At half-past eight our fishermen returned, and after they had got their breakfast we went aboard for the trip. The boat tossed slightly in the little waves that the wind frisked up as we pushed our way eastwards into the shimmering water. Gulls flew quietly past and once a fulmar came quite near to the boat. The Rock grew larger, its white-washed cliffs and

ledges taking more definite form, while the swirl of snowflakes around it transformed themselves into a cloud of birds of various kinds, each one coming or going about its business. As we approached the landing steps some razorbills tried to take off, scuttering along the surface with rapid wing-beats, their feet splayed out behind them, hitting each succeeding wavelet and almost preventing them from rising. We landed at 9.30 feeling that it was already the afternoon.

A well-made concrete path runs from the landing point past the lighthouse and over the top of the Rock to the fog signal on the northern side. Elsewhere the top is covered with short grass, which ends where the rock face falls steeply to the sea. A few yards from the landing place there is part of the old fortress wall, in the holes of which the shags breed. That ridiculous bird the puffin was strutting about the rocks on his bright pink paddles and taking an occasional but very energetic flight out to sea. It was the first time I had seen a puffin, and he reminded me of a fussy old gentleman with formal dress and a red nose. On the grass top hundreds of gulls, herring and lesser black-backed, were sitting on their eggs and as we came along the path they rose screeching into the air. There was a good wind on the top and we were glad to leave our baggage in the lee of an old stone wall before venturing to explore the cliff edge.

The most impressive inhabitant of the cliff face is undoubtedly the gannet. It is a large bird three feet long and with a five-foot wing span. From a distance it looks pure white with black wing tips, but at shorter range the delicate yellow colour of its head and blue-grey bill can be clearly seen.

The young in their first year are dark brown flecked with white, but these we did not see, for they were still within the dirty grey shells of the single eggs that were being incubated. The nest, if indeed it can be so called, is a pile of seaweed, decorated with occasional items of flotsam and garnished with regurgitated fish and their bones; the gannet has yet to appreciate the niceties of

sanitation. The nests are everywhere, for there are over four thousand breeding pairs on the Bass, and there is a constant coming and going of birds.

It is an amazing sight to see so large a bird come in at speed, throw itself back in a hard brake and land in the few square feet available. If it lands clumsily a vicious jab from a neighbouring beak soon puts it in its place, though whether it always returns to the same egg, and if so how it distinguishes it from the three or four others within the same square yard, is something of a puzzle. But the chief impression they leave with you is of their remarkable power of flight. Circling round with deep wing-beats they will rise out of the lee of the rock and meet the full force of the wind. When they are fishing you may see them plunging from fifty feet or more straight into the water, the force of the impact being taken on the specially inflated upper part of the chest. When they return it seems only a matter of

seconds before the speck you have seen out to sea is an adult gannet patrolling the cliffs again, passing you at speed and sometimes turning its head to look at you with both eyes.

But if the gannet is the most impressive, the kittiwake is surely the most delightful of the cliff nesting birds. They nest mainly on the western side of the Rock, and by climbing down the gully, up which the power cable to the lighthouse comes, I was able to get a good look at them. Smaller than the gulls and more delicate in form and colour, they were sitting on every ledge and cranny of the rock face. Coming in to land and nestling into the rock they made an interesting contrast with the gannet, and their call *kitty-way-eek*, from which their name comes, was pleasant to the ear after the strident *aahrrr* of the gannet.

I was perched on a rock half-way down this gully, my attention divided between making sure I was safe and trying to photograph the kittiwakes, when glancing down I saw a grey-black bulky form in the water. It was a seal, and while I watched it rose and stuck its whiskered head out of the water, only to sink again



A lone shag looks out to sea



This gannet has just alighted on her nest



Thousands of gannets crowd together

immediately and disappear. On the end of this rock a shag was nesting in solitary state, and I watched for some time its bottle-green-black head with its slight tuft and beady eye.

Three o'clock, the time at which we were to be taken off, came all too soon, and we had scarcely a chance to glance at the guillemots and razorbills that inhabited the lower rocks. The boat had to come round to a more sheltered landing place and we jumped with our baggage, lightened slightly by the food we had eaten. The lads with me had brought a good few gulls' eggs, which the fishermen assured us would make good omelettes.

It was nine o'clock, though it felt very much later, when I retired to bed that evening, and in the few seconds that I lay awake I could still feel the gentle motion of the boat and hear the mixed cries of the sea birds, for ever drifting round a massive white-washed pillar which was the Bass Rock.



"Village Postman"

Photo by S. Pollard (Alkali Division)

The Editor's Postbag

Readers are asked to help make a success of this Correspondence Supplement and send letters for publication to the Editor before the 15th of the month. Letters should be of general interest, non-political, and as brief as possible. They should not deal with subjects for which there is special machinery for dealing elsewhere, such as trade union matters or matters which should properly be dealt with in Works Council.

More Pros and Cons of Profit Sharing

Sir,

Mr. Chambers argued that the total profit to be distributed would not give each worker very much, but Mr. Littlemore said that £10 would be very welcome at Christmas or at holiday time. I submit that such a sum coming once a year would provide no real incentive to the majority of workers to put forth an extra effort day in and day out. To get real incentive the worker must see in his weekly pay packet the result of his very recent efforts.

Instead of dealing with complicated balance sheets and talking in millions I prefer to illustrate my point by referring to the case of our friend John Brown the blacksmith.

He worked up his business until he was able to employ four men as well as himself. These blacksmiths earned with a little overtime £8 a week each. John Brown offered to share profits, and by careful work and economy in the use of materials for a few years they managed to get an extra £50 profit for distribution, and each of the five got a £10 bonus at Christmas—an amount which Mr. Littlemore considers attractive. However, the number of horses to be shod in the district fell because farmers bought tractors to do the work, and in spite of their efforts the profits fell and the bonus dropped to £5 per annum through no fault of their own.

A year ago one of the blacksmiths who had reached the goodly age of 67 decided to retire and John Brown put up a new proposition to his men. He had been studying the earnings of piece workers and men on premium bonus schemes, and he observed that

under such schemes men earned up to 30% more than their basic wage, which meant that three such men did as much as four men paid on time rates.

His proposition therefore was that instead of replacing the man who was retiring they should go on to bonus work and do the work with three tradesmen together with his own contribution—that is, four instead of five men. Although the men were a bit doubtful at first if this could be done, they did succeed after giving it a fair trial, and the wages of the retired man were available for the bonus distribution, which resulted in the three employees and the working proprietor sharing the £8 a week. This meant a weekly addition to their pay packets of £2, or a 25% increase over their previous earnings. The increase was due to their extra productivity, and I think Mr. Littlemore will agree that the extra £100 per annum is much more attractive than his profit-sharing of £10 per annum.

In addition to his share of the bonus John Brown was pleased to note that his business expenses were reduced by having to pay for one less National Insurance stamp each week, which meant something like £10 per annum less for his overheads.

I suggest that increase of productivity by the incentive of payment by results is the best way to meet our present economic problem and raise our standard of living, or at least prevent it falling.

O. R. LINEHAM
Nobel Division
Glasgow

A Motoring Challenge

Sir,

The I.C.I. Tees-side Motoring Association, comprising the motoring clubs of Billingham and Wilton, issue a challenge to all other Divisions to take part in an inter-Divisional motoring competition to be held annually.

The competition we have in mind would be suitable for all standard cars and motor cycles and could be a road reliability trial, speed sprints, or of some other agreed form. This competition would be open to individual entrants together with nominated teams from each Division.

Representatives of the I.C.I. Tees-side Motoring Association are willing to meet those from other Divisions at some convenient meeting place to discuss further details.

I would urge all enthusiasts who are interested to meet and discuss among themselves the possibilities of partaking in this competition, and to write to me at 3 Eston Road, Lazenby, Middlesbrough.

A. MACKIE
I.C.I. T.M.A.

The Breeding of Greyhounds

Sir,

I have read with particular interest the article by Mr. Tom Parry on the breeding of greyhounds. No doubt he knows his stuff, and perhaps some of his readers will be thinking of having a go with the idea that there will be plenty of interest and cash at the back of it. Well, my advice to the budding breeder is: leave well alone.

Where can he get a bitch, as Mr.

Parry suggests, two or three years old with her racing days over ? My own experience is that they are at their best for racing at that age. And supposing he can get one and gets her mated for between five and fifty guineas, how much will it cost to keep the puppies until about twelve or fifteen months old, when they will be ready for trials ? What about the cost of taking them to the trials ? What about the dogs that will not race round the track after the hare ?

W. R. DUGDALE
Clitheroe Works
Billingham Division

Payment Deferred

Sir,

It was while I was manager of the China company's office at Foochow in the early thirties that I had to deal with a particularly difficult native agent. Besides continually trying to increase his debit balance, his accounts were always overdue and never correct.

After writing to him many times without success, urging him to send in his statements promptly and to make a substantial payment, I decided to pay him a visit.

Our agent received us with ceremony, and after the usual courtesies and a fine dinner we got down to business. We talked until midnight and eventually we got him to promise to send in his accounts regularly and correctly and to reduce considerably his debit balance.

Our journey was for nothing. He did not keep his written promise. We wrote to him again and again, threatening to relieve him of our agency. When this had no effect we informed him that we would sue him for debt and have him put in jail. To this last threat he replied that the money he owed us was owed to him by his sub-agents, to whom he had shown our letter, and would we please write him a much stronger letter for him to show to his sub-agents.

In conclusion, I would say that in course of time we succeeded in getting his debit balance reduced to a reasonable amount.

E. B. C. RIEMER
I.C.I. (China) Ltd.

Aid for those in Need

Sir,

With reference to A. W. Foster's letter, is not the problem one not for I.C.I. personnel but for the local authority where the elderly folks live ? They alone have powers to build and can let at economical rents.

I am a member of the Welwyn Garden City U.D.C., and we have faced up to this problem as follows. We built 32 flats, each containing one bedroom, sitting-room, kitchenette, bathroom, etc., all with the latest fittings.

The letting of these flats was done with very careful thought. Twelve bottom flats were allocated to old age pensioners, because being on ground level they had not to use the stairs, and an extra subsidy was placed on the rent. Twelve other flats were let to elderly folk who are able to work, but when they retire or reach the age of 65 years an extra subsidy will be placed on the rent. The remaining eight flats went to young married couples without children; on having their first child they may remain only for one year and then will be housed in larger accommodation, leaving the flat to another childless young married couple.

In that way we have mixed up different age-groups, and thereby the elderly folks are not cut off.

S. W. A. PALACIO
41 Holwell Road
Welwyn Garden City

England—that Forgotten Word

Sir,

Mr. Churchill once said "There is a forgotten, nay, almost a forbidden, word which means more to me than any other. That word is England. Once we flaunted it in the face of the whole world like a banner. It was a word of power. But today we are scarcely allowed to mention the name of our country."

Mr. Churchill went on to ask what would happen if any of our Celtic neighbours were asked to forget their nationality, and finally he demanded "Why should we English alone be expected to subscribe to this self-denying ordinance ?"

Certainly it does seem to be expected, at any rate in the popular press, that Englishmen should be

content to describe themselves as Britons. Are we savages ? Do we paint ourselves with woad (or indeed with any of its modern successors) ? Are we clad in skins ? What have we done to deserve this name ?

L. T. BUTT
Patents Department
Dyestuffs Division

Do we Lag Behind in Sport ?

Sir,

With reference to Mr. Lapham's letter, in which he recalled a representative hockey team which played against I.G. Farbenindustrie, we of the Hockey Section in Liverpool have been discussing the possibilities of reviving the representative team, but the main obstacle seems to be the expense involved. How did the former teams overcome this difficulty ? Was there a fund for this purpose ? If so, does it still exist ?

TOM WILSON
Shipping Department
India Buildings, Liverpool

Sir,

I am surprised at the remarks of Mr. R. A. Page about Billingham Synthonia being the outstanding I.C.I. football team. While no one in the Alkali Division wants to detract from Synthonia's fine record, I would like to draw your readers' attention to the following facts.

Since our team (I.C.I. Alkali F.C.) was built up by Mr. Max Woosnam they have achieved and distinguished themselves not only in the Cheshire competitions but in the F.A. Amateur Cup and Manchester League. In the F.A. Amateur Cup they were quarter-finalists twice. Their sequence of victories in the Cheshire Amateur Cup is a record which should stand for years. They were winners in 1935, 1936, 1937 and 1938, also in 1951 and this year. They were the runners-up in 1949.

During the season 1935-6 they won the Manchester League and Cheshire Amateur Cup; they were quarter-finalists in the F.A. Amateur Cup and runners-up in the Gilgryst Cup. The club have also been the runners-up in the Cheshire Senior Cup.

HERBERT WATKIN
Wallerescote Maintenance Department
Alkali Division